

**PENTAX®**

# Service Manual

ENGLISH

**PENTAX 67<sup>II</sup>**



**Product No.27340**

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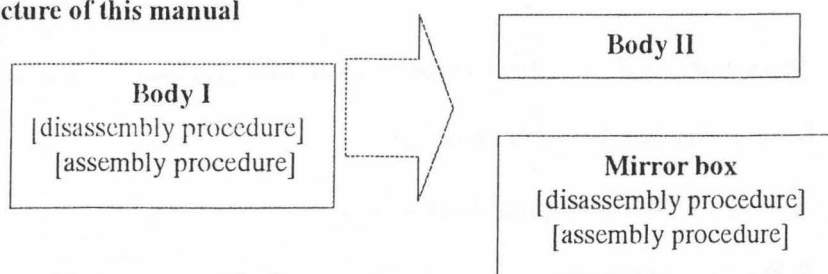
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## \*\*\*\* List of main items for adjustment and checking \*\*\*\*

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## \*Disassembly and Assembly Outline

### \*Structure of this manual



### \*Disassembly and assembly flow per item

(check): item to be checked

(adjust): item to be adjusted

## 1. Body I [disassembly procedure]

- 1.1 Grip rubber, body leather
- 1.2 Bottom cover (A121)
- 1.3 Rear cover (A321)
- 1.4 Focus screen frame (M1)
- 1.5 Front cover, left (A131)
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- 1.7 Top cover, left (0-A351)
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- 1.11 Tripod plate assy. (0-B32)
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- 1.13 Grip (0-A501) and related parts
- 1.14 Lead wires (T100)
- 1.15 PCV holder (A87)
- 1.16 Back cover switch pedestal (A80)
- 1.17 Rear cover spacer (A322)
- 1.18 LCD install plate (E101)
- 1.19 M. E restrict plate (E88)
- 1.20 Winding lever click switch (C89, C90)
- 1.21 Duality prevention coupler lever (0-C25)
- 1.22 Shutter charge main gear (assy.) (0-C1)
- 1.23 Winding shaft plate (0-C34)
- 1.24 Winding lock interval lever B (0-C26)
- 1.25 Mirror box and body II

## 2. Body I [assembly procedure]

- 2.1 Mirror box and body II
- 2.2 Winding lock interval lever B (0-C26)
- 2.3 Winding shaft plate (0-C34)
- 2.4 Shutter charge main gear (assy.) (0-C1)
- 2.5 Winding stopper position (adjust)
- 2.6 Charge gear position (adjust)
- 2.7 Mirror charge quantity (adjust)
- 2.8 Duality prevention coupler lever (0-C25)
- 2.9 Winding lever click switch (C89, C90)
- 2.10 M. E restrict plate (E88)
- 2.11 LCD install plate (E101)
- 2.12 Rear cover spacer (A322)

- 2.13 Rear cover switch pedestal (A80)
- 2.14 Lead wire (T100)
- 2.15 Grip (0-A501) and related parts
- 2.16 Mech. back, mirror 45 degrees, mount lock pin (adjust)
- 2.17 Under cover, right, left (A401, A451)
- 2.18 Top cover, right (0-A301)
- 2.19 Winding lever (C51)
- 2.20 Static current, operation checking (check)
- 2.21 Curtain speed, shutter speed adjustment (adjust)
- 2.22 Shutter bounce adjustment (adjust)
- 2.23 PCV holder (A87)
- 2.24 Right side cover (0-A111)
- 2.25 Left side cover (0-A101)
- 2.26 Front cover, left (A131)
- 2.27 Top cover, left (0-A351)
- 2.28 Focus adjustment (adjust)
- 2.29 Focus screen frame (M1)
- 2.30 Rear cover (A321)
- 2.31 Tripod plate assy. (0-B32)
- 2.32 Bottom cover (A121)
- 2.33 Adjustment using program software (adjust)
- 2.34 Grip rubber, body leather
- 2.35 Application of black mat paint
- 2.36 Inspection guidelines (check)

## 3. Body II

- 3.1 Application of L114
- 3.2 Film retainer roller parts
- 3.3 Back cover key and Back cover (assy.)
- 3.4 Winding Mg, spool axis and related parts
- 3.5 Film pulse related parts
- 3.6 Soldering and treatment of lead wire

## 4. Unit parts of body

- 4.1 Top cover, right (A301) and related parts
- 4.2 Top cover, left (A351) and related parts
- 4.3 Grip (assy.) (0-A501) and related parts

## **5. Mirror box [disassembly procedure]**

- 5.1 Focus screen SW contact (B21)
- 5.2 AM Switch (B41)
- 5.3 Duality prevention lever (0-E91)
- 5.4 Removal of Main P. C. Board (T100)
- 5.5 Shutter curtain operation lever
- 5.6 X Switch (I230)
- 5.7 Release of curtain tension
- 5.8 Damper mech. (A0-E1)
- 5.9 Curtain charge gear (0-E80)
- 5.10 Curtain checker lever (E82)
- 5.11 1<sup>st</sup> and 2<sup>nd</sup> curtain
- 5.12 Magnet plate (D59)
- 5.13 Mirror base plate (0-D1)
- 5.14 Bayonet seat (B2)
- 5.15 Focus screen adjusting plate (M3)
- 5.16 Viewfinder contact board (0-T301)
- 5.17 Viewfinder positioning pin (M11)
- 5.18 Diaphragm coupler ring (0-K102)
- 5.19 Anti-reflection sheet (D155)
- 5.20 Mirror sheet (0-D125)
- 5.21 Duality prevention coupler lever (0-C25)
- 5.22 Other parts

## **6. Mirror box [assembly procedure]**

- 6.1 Light sensor (0-J201)
- 6.2 Lock release pin (0-B14)
- 6.3 Light seal cushion (B50)
- 6.4 Damper plate (D132, D133)
- 6.5 Adhere Main mirror (L1)
- 6.6 Mirror sheet (0-D125)
- 6.7 Mirror arm pedestal spring (D124)
- 6.8 Light seal curtain (B47)
- 6.9 Resistor (K101)
- 6.10 Diaphragm coupler ring (0-K102)
- 6.11 Viewfinder positioning pin (M11)
- 6.12 Viewfinder contact board (0-T301)

- 6.13 Focus screen adjusting plate (M3)
- 6.14 Light seal string (B5)
- 6.15 Bayonet seat (B2)
- 6.16 Mirror base plate (0-D1)
- 6.17 Light seal tape D130)
- 6.18 Magnet plate (D59)
- 6.19 FPC install plate (D37)
- 6.20 Wind-end SW contact (D72, D73)
- 6.21 Mirror stopper support spring (D67)
- 6.22 Shutter curtain operation lever
- 6.23 1<sup>st</sup> and 2<sup>nd</sup> curtain
- 6.24 Curtain tension
- 6.25 Curtain checker lever (E82)
- 6.26 Curtain alignment (adjust)
- 6.27 Installing position of Damper block (adjust)
- 6.28 X Switch (I230)
- 6.29 ES Magnet (adjust)
- 6.30 Mirror box operation (check)
- 6.31 Apply silicon to Shutter curtain operation lever
- 6.32 Installing Main P. C. Board (T100)
- 6.33 Shutter curtain position (check)

## **7. Mirror base plate (assembly procedure)**

- 7.1 Mirror actuator arm (0-D11)
- 7.2 Restoring gear (D24)
- 7.3 Release spring (D44)
- 7.4 Mirror charge double gear (0-D40)
- 7.5 Operation of Mirror base plate (0-D1) (check)

## **8. Assembly of shutter curtain**

- 8.7 Drawing of shutter curtain assembly

## **9. Main mirror (L1) installing**

## **10. Folding of Main P. C. Board (T100)**



## Disassembly and assembly procedure

NB: In order to prevent static destruction of the inner circuit, use should be made of conductive mats and wrist straps.

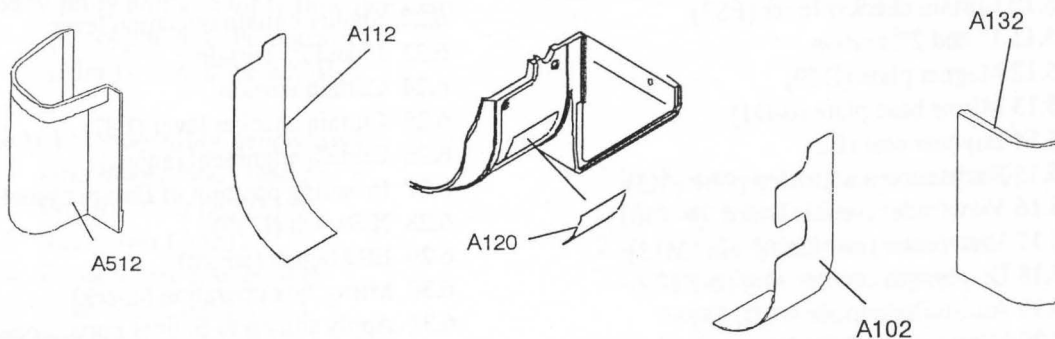
### 1. Body I (Disassembly procedure)

Preparations: Set the camera in the released position.

Remove the battery holder, the battery, the body mount cap and the finder cap.

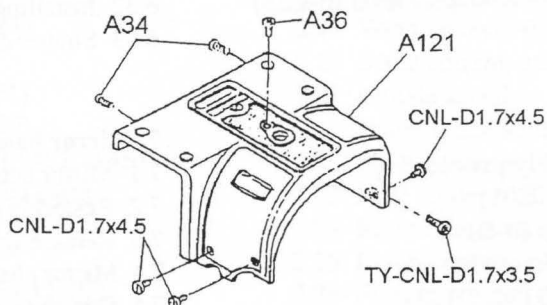
#### 1.1 Grip rubber, body covering

1) Gently peel off A102, then remove A120 beneath it.



#### 1.2 Bottom cover (A121)

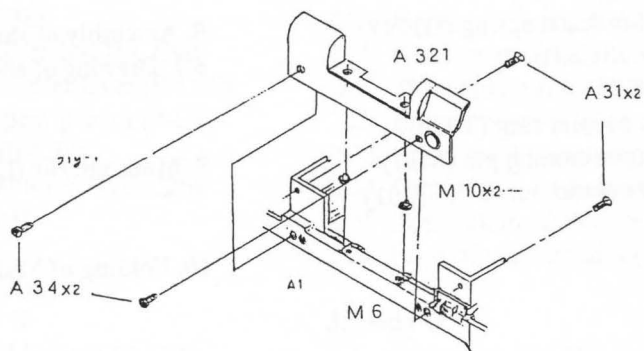
1) 7 screws



#### 1.3 Rear cover (A321)

1) 4 screws

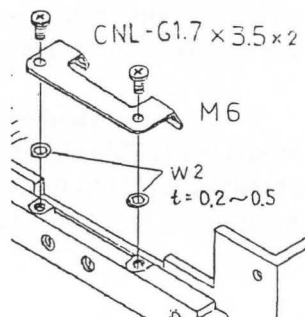
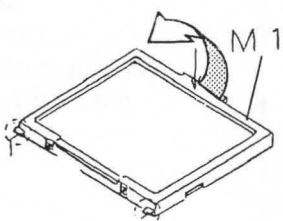
2) M10 x 2



#### 1.4 Focus screen frame (M1)

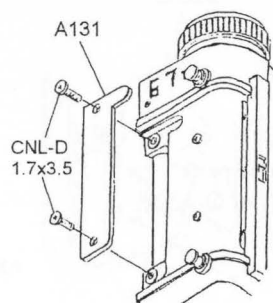
1) Remove M1 from the back.

2) M6: 2 screws, W2 x2



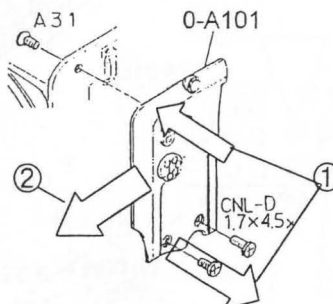
### 1.5 Front cover, left (A131)

- 1) 2 screws

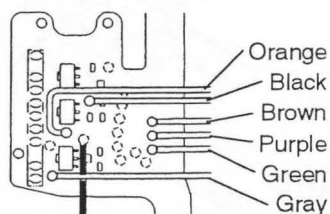


### 1.6 Left side cover (0-A101)

- 1) 3 screws
  - 2) Remove 0-A101 as shown in the drawing.
- NB: A lead wire is attached to the back of the cover.

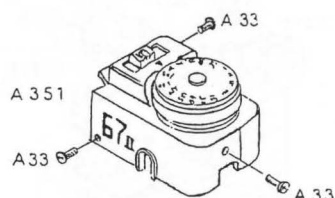


- 3) Remove the soldering of the 6 lead wires on the main circuit board.



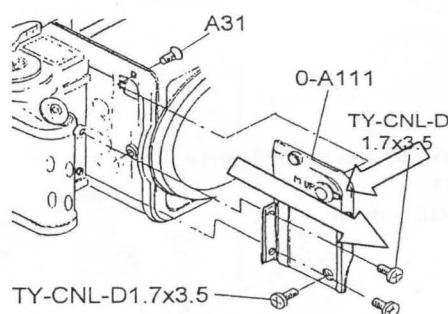
### 1.7 Top cover, left (0-A351)

- 1) A33 x3
  - 2) 0-A351
- \* The shutter dial may be in any position.



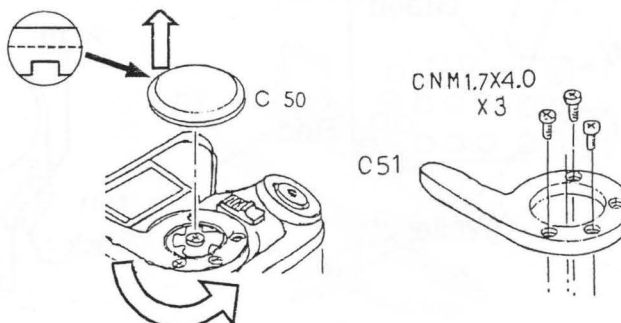
### 1.8 Right side cover (0-A111)

- 1) 4 screws
  - 2) 0-A111
- Lift up the front and pull forwards.



### 1.9 Winding lever (C51)

- 1) C50  
Wind up half way and peel from the notched groove of C50.
- 2) Wind up fully by C51 and put in the release state. (Use the battery.)
- 3) C51, 3 screws

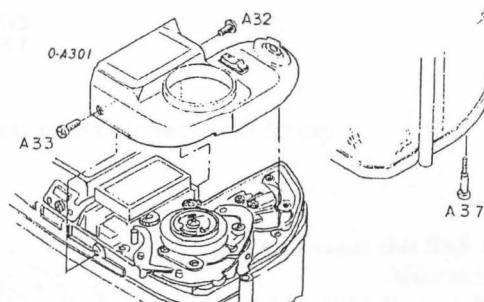


### 1.10 Top cover, right (0-A301)

1) A37 (inside battery chamber)

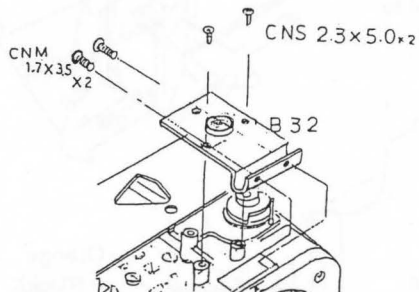
2) A32, A33

\*See "Top cover right and related parts"  
for disassembly and assembly of 0-A301.



### 1.11 Tripod plate assy. (0-B32)

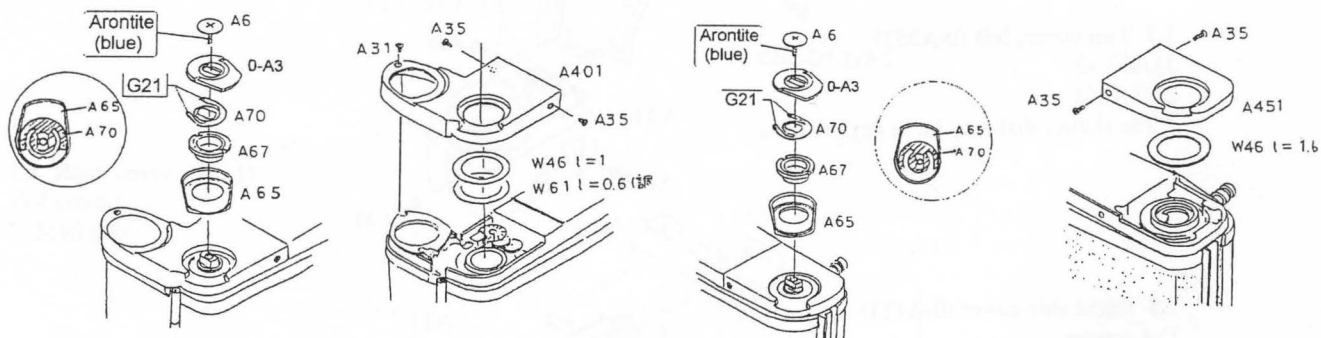
1) 4 screws



### 1.12 Under cover right, left (A401, A451)

Equipment to be prepared:

: Tool 23400K-A67-A (95901-K145)

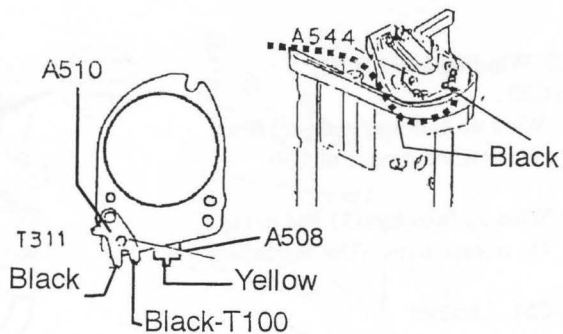
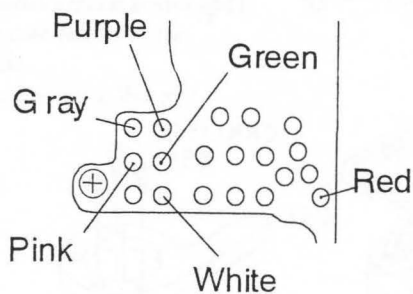


### 1.13 Grip (0-A501) and related parts

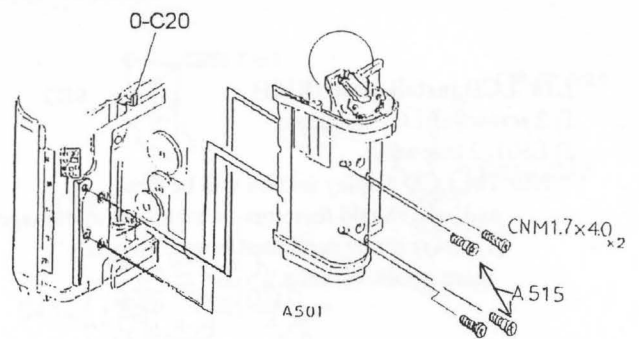
1) 10 lead wires

- T100 beneath body: 6

- Beneath grip: Black x2 (A510), yellow (A508),  
main switch land section: black (A544)

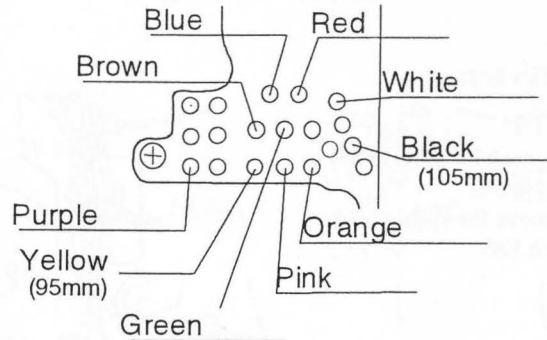


- 2) 4 screws: A515 x2, CNM x2
  - 3) Grip (0-A501) and related parts
- \*See "Grip (0-A501) and related parts" for disassembly and assembly.



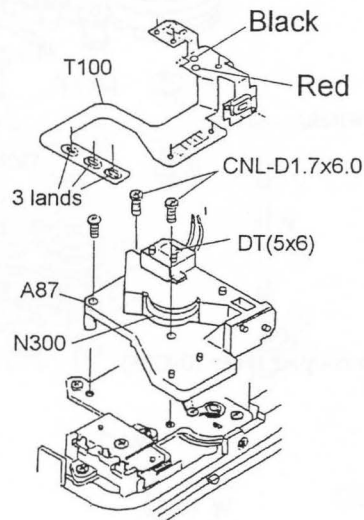
#### 1.14 Lead wires (T100)

- 1) 8 T100 lead wires beneath body
- \*Do not remove the black and yellow lead wires!



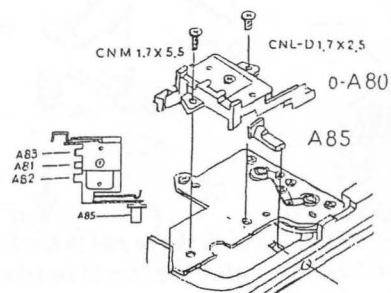
#### 1.15 PCV holder (A87)

- 1) 2 lead wires
- 2) 3 lands
- 3) Peel away the flex of the ISO switch section and the land.
- 4) 3 screws
- 5) A87, N300



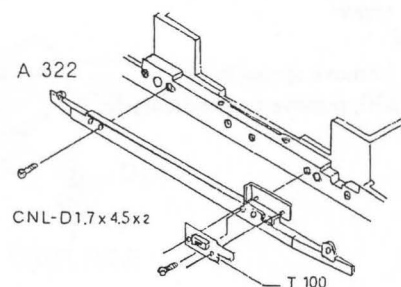
#### 1.16 Back cover switch pedestal (A80)

- 1) Open the Back cover.
- 2) 2 screws
- 3) A80 with switch contacts
- 4) A85



#### 1.17 Rear cover spacer (A322)

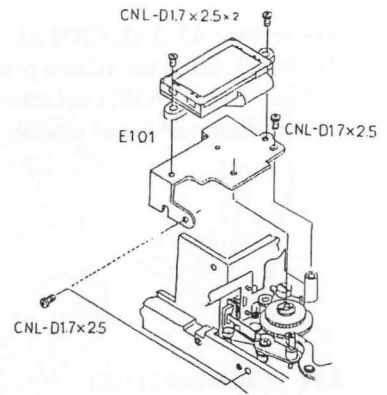
- 1) Peel away the flex of the ML button.
- 2) 2 screws



### 1.18 LCD install plate (E101)

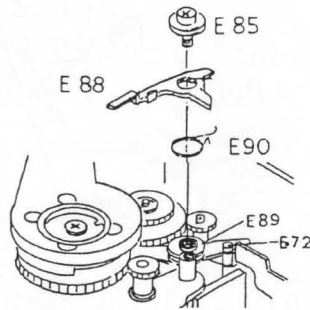
- 1) 2 screws of LCD section
- 2) E101, 2 screws

NB: The LCD display section will be free,  
and care should therefore be taken not to damage it.  
(The rear screw is omitted from some early  
mass-produced units.)



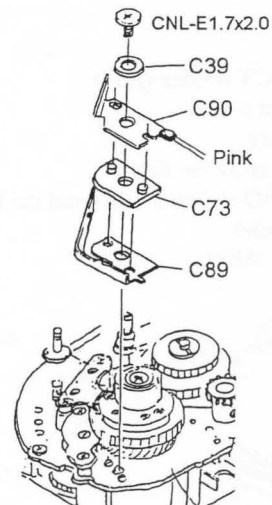
### 1.19 M. E. restrict plate (E88)

- 1) E85
- 2) E88, remove the spring hook.
- 3) Re-attach E85.



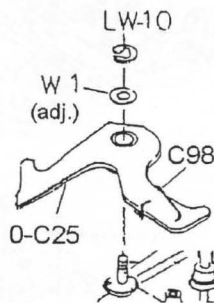
### 1.20 Wind lever click switch

- 1) 1 lead wire (pink)
- 2) CNL-E1.7 x2.0  
C89, C73, C90, C39



### 1.21 Duality prevention coupler lever (0-C25)

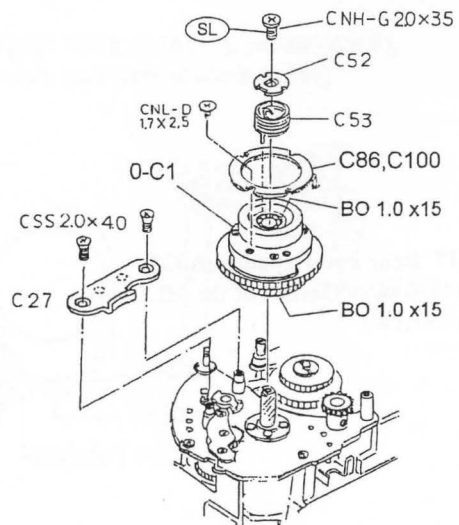
- 1) LW10
- 2) W1
- 3) 0-C25
- 4) C98 (spring)



### 1.22 Main gear (assy.) (0-C1)

NB: There are 30 BO1.0 (15 each above and below)  
between 0-C1 and the shaft. Care should be taken  
not to mislay them during removal.

- 1) C86, C100, 1 screw
- 2) C27, 2 screws
- 3) C52, 1 screw (remove spring hook)
- 4) 0-C1, BO1.0 x30, remove perpendicularly.

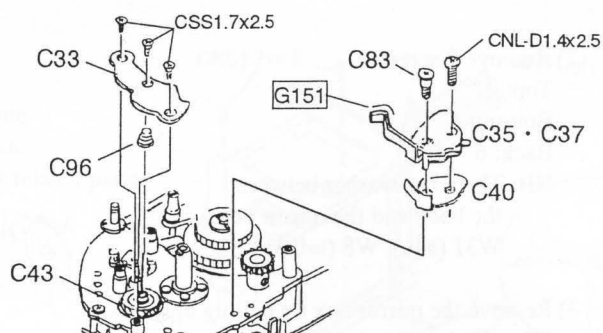




### 1.23 Winding shaft plate (0-C34)

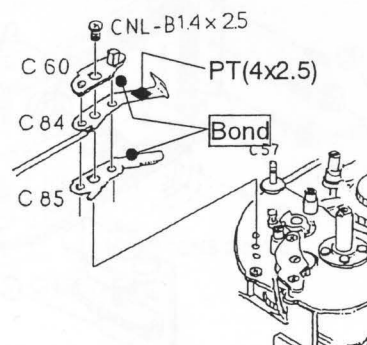
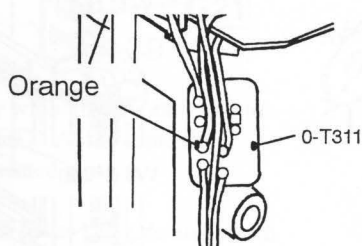
Equipment to be prepared  
: Driver bit 23400K-C73-A  
(95901-K159)

- 1) C33, 3 screws
- 2) C96
- 3) C83, 1 screw
- 4) C37, C35, C40



#### 5) C84:

- 1) 1 lead wire (orange)  
Remove at 0-T311
- 2) 1 screw
- 3) C60, C84, C85

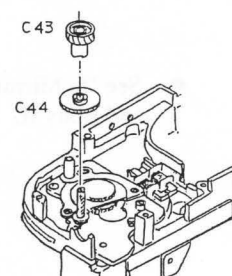
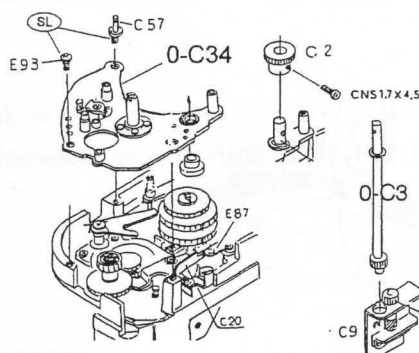


#### 6) C2, 1 screw

#### 7) 0-C34, C15

- 1) E93, C57 (use tool)
- 2) 0-C34  
Remove 0-C3 from bottom.

#### -3) C43, C44

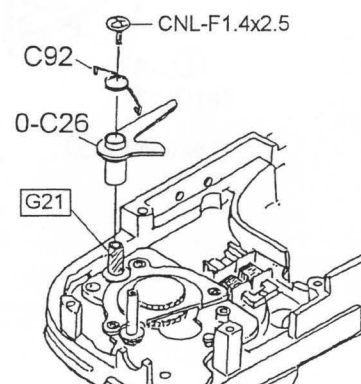
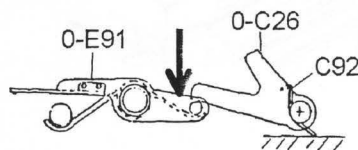


### 1.24 Winding lock interval lever B (0-C26)

- 1) Remove C92 spring hook.
- 2) 1 screw
- 3) C92
- 4) 0-C26

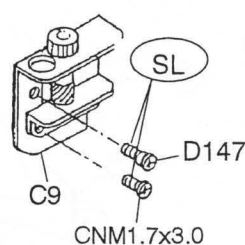
Free 0-E91 (duality prevention lever) to the rear.  
(Affix on S300 magnet.)

NB: Do not bend the lever during removal.



### 25 Mirror box and body II

- 1) 2 C9 screws (CNM..., D147)
- No need to remove C9.



(continued on the following page)

2) Remove 9 screws.

Top: 2

Bottom: 1

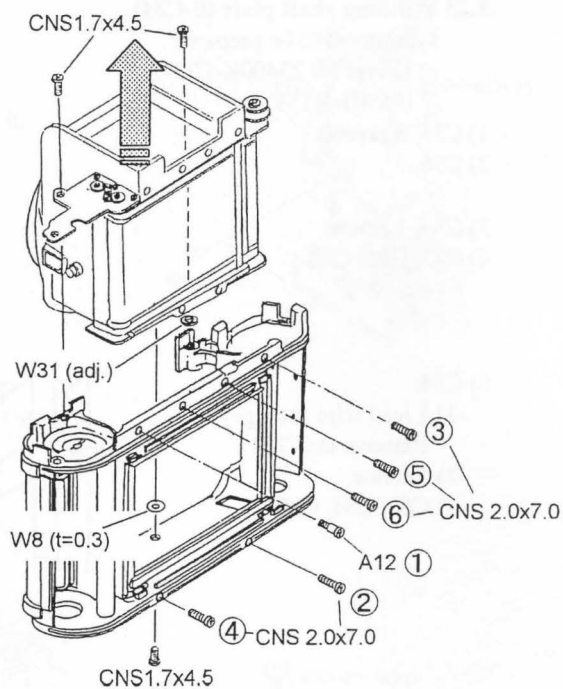
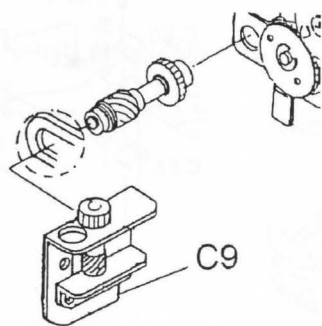
Back: 6

NB: There is a washer between  
the body and the mirror box.

W31 (adj.), W8 (t=0.3)

3) Remove the mirror box by pulling upwards.

C9 and related parts will come away  
at the same time.

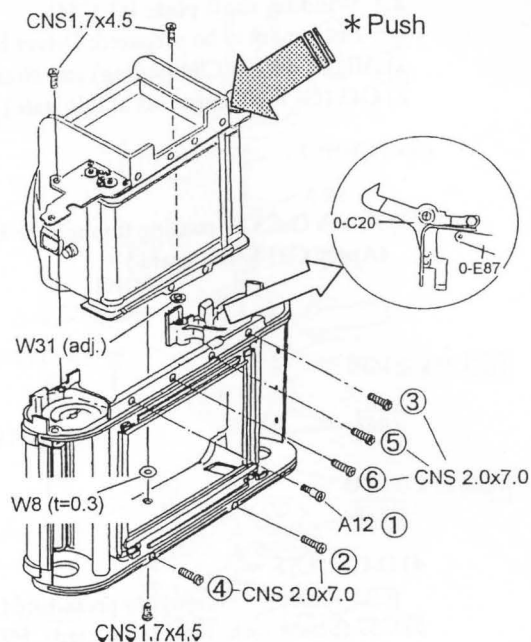
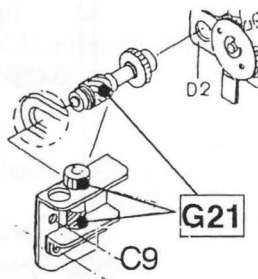


- See "5. Mirror Box" and "3. Body II" for instructions on disassembly and assembly of the mirror box and Body II.

## 2. Body I (assembly procedure)

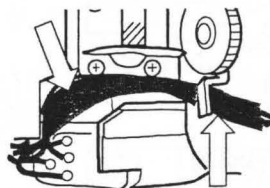
### 2.1 Mirror box and body II

- 1) Set the shutter curtain to the charge completion state and the mirror base plate (O-D1) to the released state.
- 2) Apply G21 liberally to C9 and the gear sections of related parts.

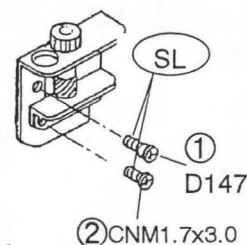


- 3) Fit the mirror box into the body while paying attention to the positions of O-C20 and O-E87. At the same time, temporarily assemble C9 and related parts. (Do not attach with screws.)
- 4) Draw the mirror box to the Back cover key side and attach screws and washers as shown in the drawing. Adjust: W31 should be inserted at the same thickness as the gap between the body and the axial plate (O-E67).

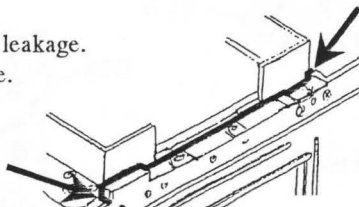
- 5) Arrange the seven lead wires beneath the body.



- 6) Attach C9 in the order D147, CNM1.7 x3.0 and apply Screw lock. Check: Check for smooth rotation of the gears.

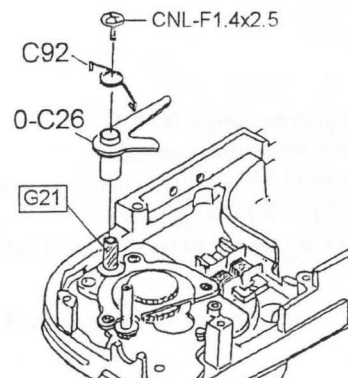
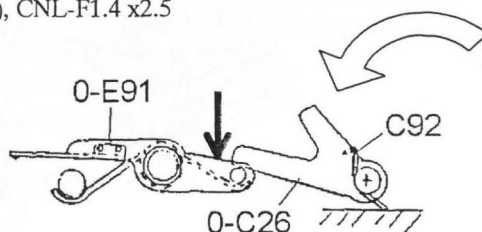


- 7) Apply black paint in order to prevent light leakage. NB: Ensure that the paint does not protrude.



### 2.2 Lock intermediate lever B (O-C26)

- 1) Make it hold the S300 (magnet) and move O-E91.
- 2) Apply G21 to the lever shaft.
- 3) O-C26, C92 (spring), CNL-F1.4 x2.5
- 4) Attach the spring.

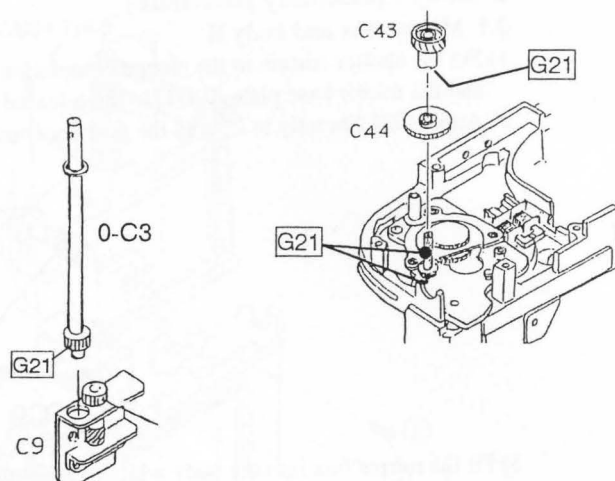


### 2.3 Winding shaft plate (O-C34)

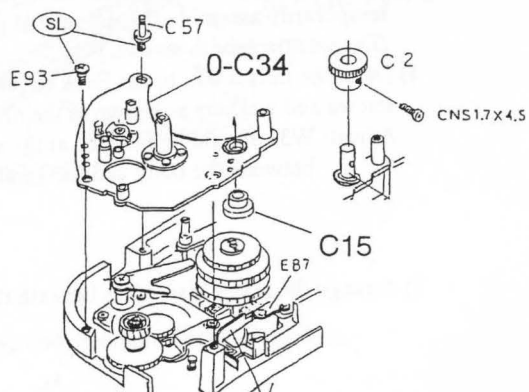
Equipment to be prepared: Driver bit 23400K-C73-A

- 1) Align C44 and C94 (spring) and attach.
- 2) C43 (C43 will come off at this state)

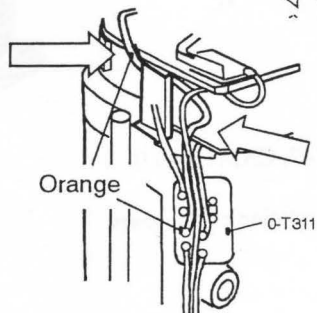
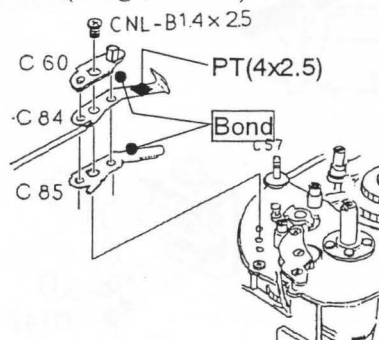
- 3) Attach O-C3 by passing through the body from below.  
(Apply G21 to the gears.)



- 4) O-C34, C15 →  
(C15 should be thoroughly press-fitted.)
- 5) C57 (Screw lock, tools to be used), E93
- 6) C2, CNS 1.7 x4.5  
Check: Check that the gears rotate smoothly.

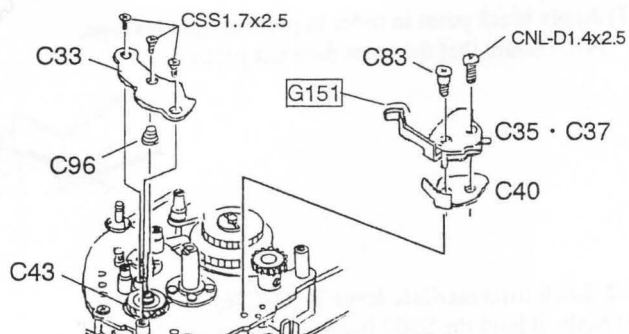


- 7) C85, C84, PT (4 x2.5), C60  
CNL-B1.4 x2.5
- 8) 1 lead wire (orange, O-T311)



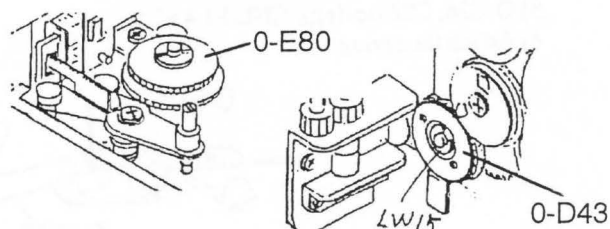
- 9) C40, C35, C37, C83, CNL-D1.4 x2.5  
Apply G151 to tip of C35.

- 10) C96, C33, CSS1.7 x2.5 x3  
NB: Make sure that C96 does not intrude while turning C43.

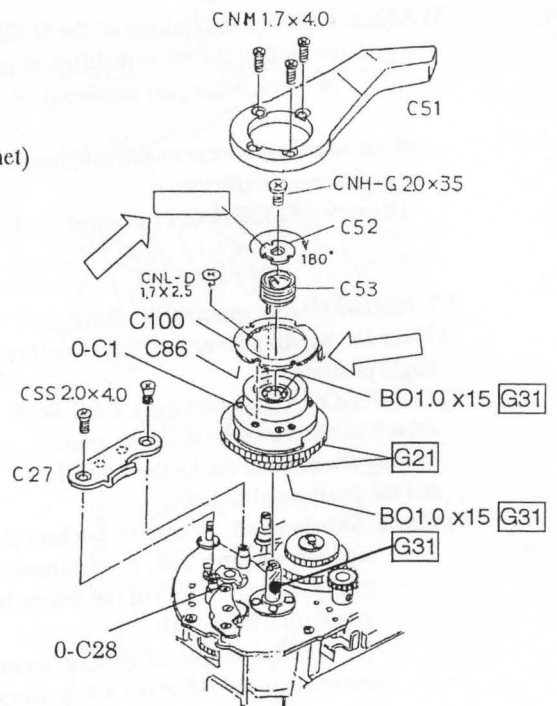


### 2.4 Main gear (assy.) (O-C1)

- 1) Release the shutter curtain.
- 2) Remove O-E80 (curtain charge gear) and O-D43 (mirror charge gear).  
NB: Take care not to lose the steel balls.

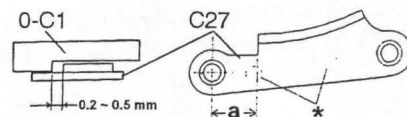


- 3) Apply G31 generously to BO1.0 (15 each above and below) and attach O-C1 (main gear).
- 4) Install O-C1 vertically and attach to shaft while taking care that BO1.0 does not protrude.
- 5) After attaching O-C1 thoroughly, move O-C28 (Winding ratchet) and rotate O-C1 clockwise until it stops.
- 6) C53, C52 (drawn surface on top)  
Attach C53 to the long hole of C52, rotate clockwise 180 degrees, and attach with CNH-G2 x3.5. (Apply the Screw lock)
- 7) C86, C100, CNL-D1.7 x2.5  
Move C86 anti-clockwise and fasten the hole at front right with screws.
- 8) Attach the temporary winding lever (C51) to prevent users' items becoming scratched.
- 9) C27 (-O1G: standard use), CSS2 x4.0 x2  
In order to prevent contact with C86, wind the winding lever 160 degrees and attach C27.



## 2.5 Winding stopper position (adjust)

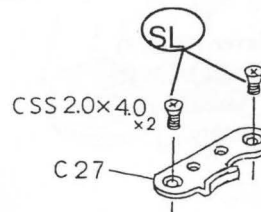
- 1) Check: Slowing wind with the winding lever and when stopped in a position with the ratchet (O-C28) reversed, check that the gap between O-C1 and C27 is between 0.2 and 0.5 mm.



- 2) Adjust: Replace C27 types. →  
C27-O1G, -O1E, -O1F

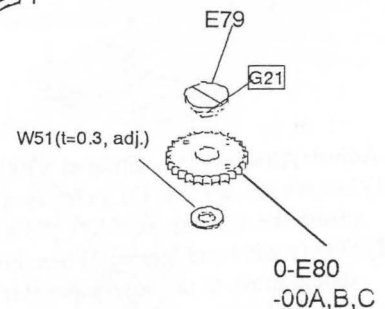
| C27  | a (mm) | ID Mark (Left, Right) |   |
|------|--------|-----------------------|---|
| -O1G | 4.8    | ○                     | ○ |
| -O1E | 5.0    | —                     | — |
| -O1F | 5.2    | ○                     | — |

- 3) After adjusting and check, apply the Screw lock to the screw sections of CSS2 x4.0 (2) and check a second time.



## 2.6 Charge gear position (adjust)

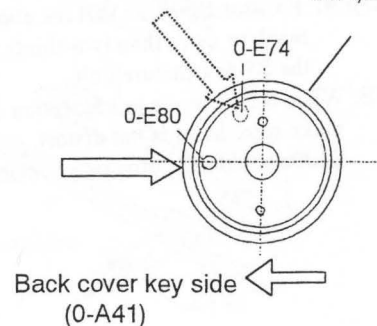
- 1) O-E80 (curtain charge gear)
  - 1) Set the winding lever in the housed state.
  - 2) W51 (t=0.3, adj.)
  - 3) O-E80 (-OOB: standard used), attach so that the dowel at the rear faces true left (Back cover key side).
  - 4) E79 (apply G21 to shaft part of O-E80).



- 2) Check: Slowly wind and check for the following order (①→②→③).

NB: Do not wind forcibly if there is a large gap between ② and ③.  
The gap should be small. In order to release during winding, hold the winding lever and move the ratchet.

- ① 1<sup>st</sup> curtain stopper (upper E82 stopped)
- ② 2<sup>nd</sup> curtain stopper (lower E82 stopped)
- ③ Ratchet (O-C28) reverses  
(Gap between O-C1 and C27 between 0.2 and 0.5 mm)

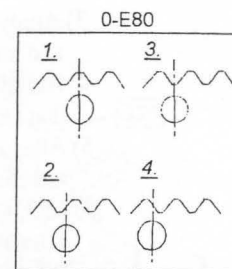




- 3) Adjust: Dislodge the linkage of the O-E80 gears,  
or replace O-E80 with different gear and dowel positions.  
(4 types, same part numbers) →

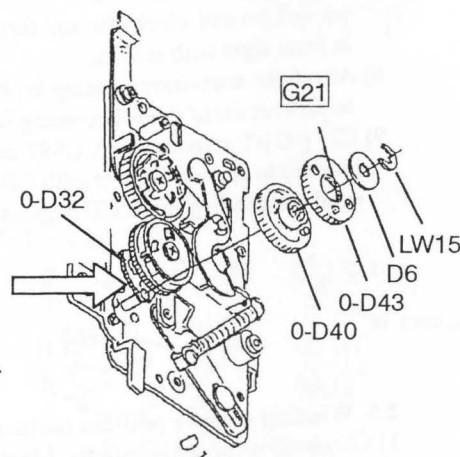
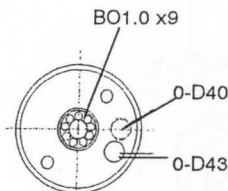
Adjust winding looseness and roughness by replacing with types  
with different diameters.

- Diameter: O-E80-00A (no sign) > -00B (one mark-off line) > -00C (two marks)

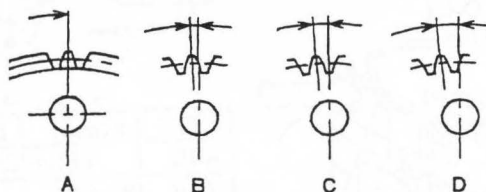


## 2.7 Mirror charge quantity (adjust)

- 1) Place the winding lever in the preparatory angle position.
- 2) O-D43 (-00A: standard use), D6, LW15  
Attach as shown in the drawing while paying attention to the O-D40 dowel and the position of O-D43.
- 3) Check: Slowly wind. When the ratchet (O-C28) has reversed and the winding lever has returned, the Diaphragm charge gear (O-D32) of the mirror box should be → positioned on the left.  
(→ Charge completed state of the mirror box)  
Overcharge should occur when wound further up to the stopper.



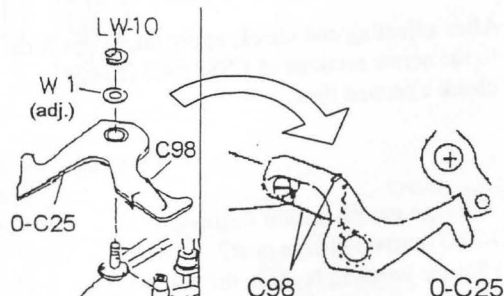
- 4) Adjust: Dislodge the linkage of the O-D43 gears or replace with another type.  
- O-D43-00A (no mark), -00B (one mark-off line), -00C (2), -00D (3)



NB: Be sure to apply G21 when replacing O-D43. Make sure that LW15 is not loose.

## 2.8 Duality prevention coupler lever (O-C25)

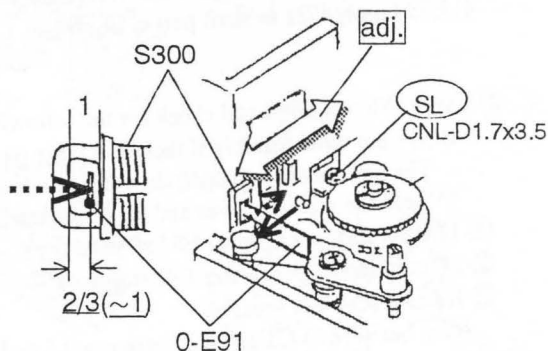
- 1) C98, O-C25, W1 (adj., 0.1 - 0.3 mm), LW10  
Check: Vertical looseness less than 0.05 mm,  
O-C25 should move smoothly.



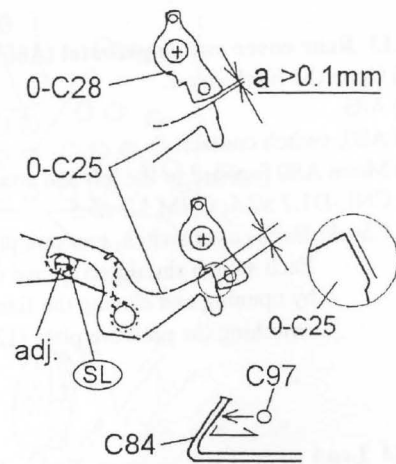
- 2) Adjust: Attachment position of S300.

- 1) Loosen screw CNL-D1.7x3.5 as shown in drawing right, adsorb the armature of S300. (S300 should be free)
- 2) Slowly wind and return. When this is done, the tip of O-E91 should move to the adsorption side of S300 an instant.  
Adjust: Position S300, so that the above moving amount reach to more than two-thirds of the width of the S300 armature hole.

NB: When O-E91 move to adsorption side,  
make sure that it is not distort.  
S300 should not come into contact with the gear.

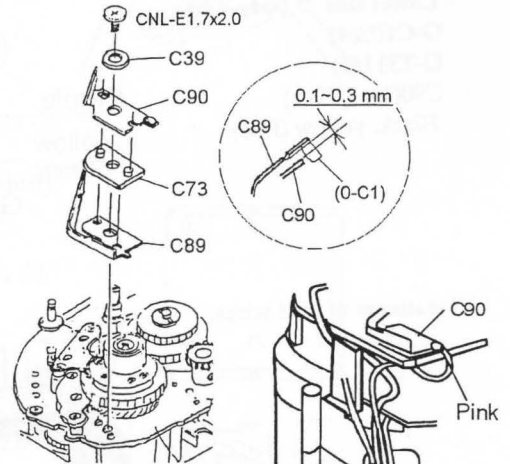


- 3) Check 1: When the armature is released adsorption, the gap between O-C25 and O-C28 should be more than 0.1 mm.  
Check 2: When winding again, the pointed part of O-C25 should be engaged with O-C28 as shown in drawing.  
Adjust: Adjust with the eccentric dowel of O-E91.  
(Do not bend O-E91)
- 4) After adjusting as above, apply Screw lock (or adhesive) to S300 installing screw and o-E91 eccentric dowel.  
When wind on after adjustment, move O-C25.
- 5) Check: During winding, C97 (ratchet spring) should come securely into contact with C84 (winding halfway switch) 11 (eleven) times.



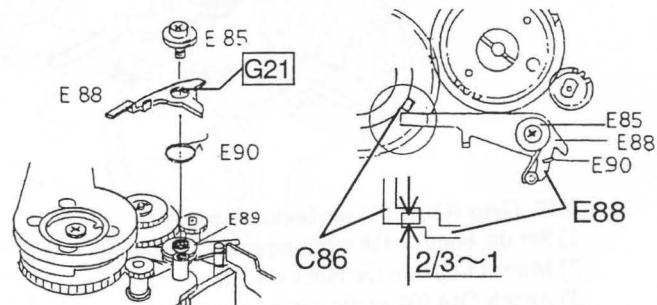
## 2.9 Winding lever click switch (C89, C90)

- 1) Set during winding.
- 2) C89, C73, C90, C39, CNL-E1.7 x2.0
- 3) Adjust: Gap of Winding lever click switch  
C90 should be adjusted so that the switch gap is between 0.1 and 0.3 mm in the Winding lever is at preliminary angle position.
- 4) Check: Check switch operation.  
a) Winding lever housing position: SW/off  
b) Winding lever preliminary angle position: SW/off (0.1 - 0.3 mm)  
c) During winding: SW/on
- 5) One lead wire (pink) should be soldered onto C90.



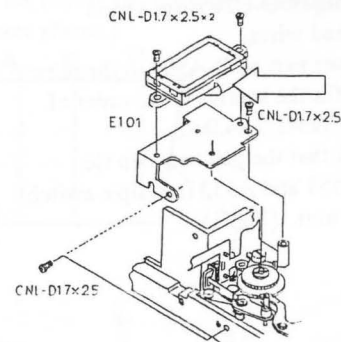
## 2.10 Multiple exposure restrict plate (E88)

- 1) Remove temporarily attached E85.
- 2) E90, E89, E88 (apply G21 to inner diameter).
- 3) E85. Attach spring.
- 4) Check: Catch of C86 and E88 should be more than two-thirds of the plate thickness.



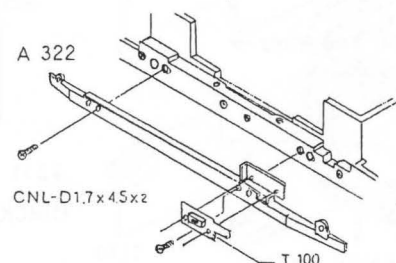
## 2.11 External LCD support plate (E101)

- 1) E101, CNL-D1.7 x2.5 x2  
(Rear screw was omitted with early mass-produced items.)
- 2) Attach LCD display section of main PC Board.  
CNL-D1.7 x2.5 x2



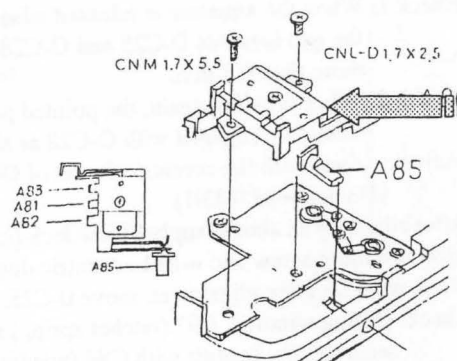
## 2.12 Rear cover spacer (A322)

- 1) A322, CNL-D1.7 x4.5 x2
- 2) Attach ML button flex (T100) to A322.



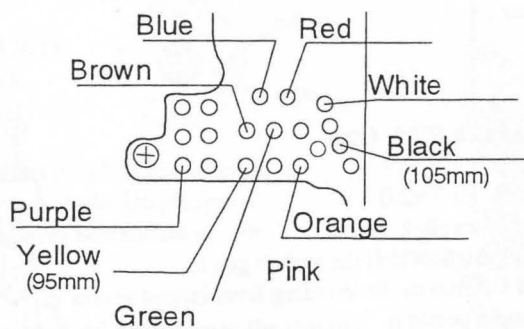
### 2.13 Rear cover switch pedestal (A80)

- 1) Open the Back cover.
- 2) A85
- 3) A80, switch contact.
- 4) Move A80 forward to the left and attach.  
CNL-D1.7 x2.5, CNM 1.7 x5.5
- 5) Check: Back cover switch, pressure plate switch.  
Each switch should go on and off securely  
by opening and closing the Back cover and  
switching the pressure plate (120 $\longleftrightarrow$ 220).

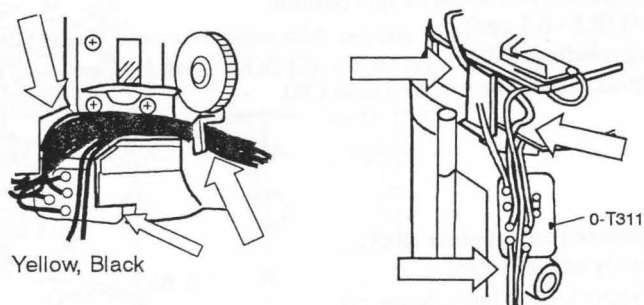


### 2.14 Lead wire (T100)

- 1) Solder 10 lead wires.  
- Lower side of body T100  
O-C102(4)  
O-T311(2)  
C90(1), D72(1)  
Black, yellow (free).

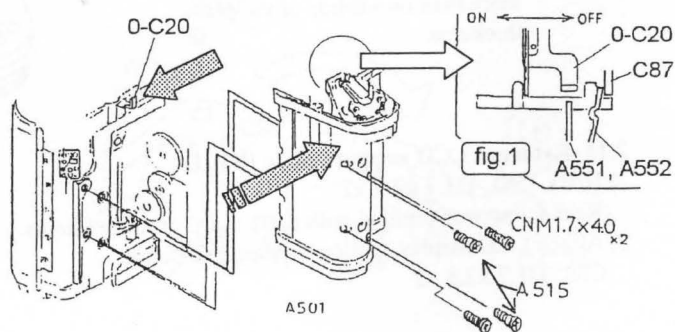


- 2) Treatment of lead wires.

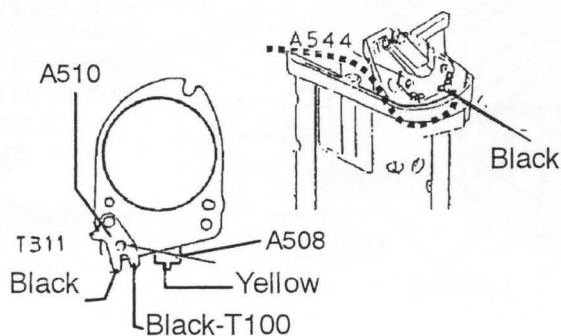


### 2.15 Grip (O-A501) and related parts

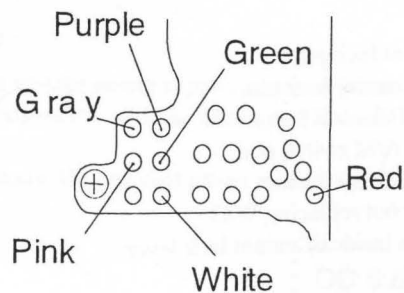
- 1) Set the body to the winding completion state.
- 2) Move O-C20 to the outer side (left)
- 3) Attach O-A501 while paying attention to the interlocking of O-C20 (Fig. 1) and insertion of lead wires.
- 4) Move the upper part of O-A501 to the mirror box side and fix the screws in the order of A515 x2 and CNM1.7 x4.0 x2.
- 5) Check: Check that the gap between the contacts of A551 and A552 (multiple switch) is 0.5 +/- 0.3 mm. (Fig. 1)



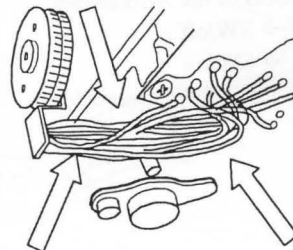
- 6) Solder four lead wires  $\rightarrow$



7) Solder 6 lead wires (lower side of body T100).



8) Using the guide of the mirror box, treat the lead wires so that they do not come into contact with the gears and the bounce mechanism. →



## 2.16 Mechanical back , mirror 45 degrees, mount lock pin (adjust)

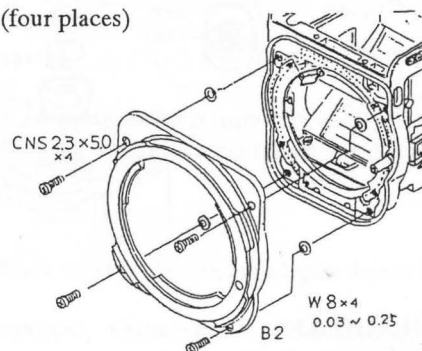
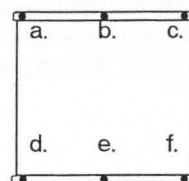
Equipment to be prepared: Block gauge for 67,  
Mount pedestal for 67,  
Mirror 45 degree positioning jig for 67,  
Slide calipers.

1) Adjust: Mechanical back

-1) Check: Set the Back cover vertically and measure six places.

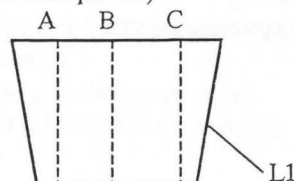
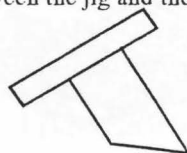
Standard: 84.95 +/- 0.04 mm

-2) Adjust: Remove the mount ring and adjust with W8 (four places)  
 $\pm 0.02$  as the objective.



2) Adjust: Mirror 45 degrees

-1) Check: In the winding completion state, place the jig against the mirror and the mount and make sure that there is no gap between the jig and the mirror. (Check in three places.)



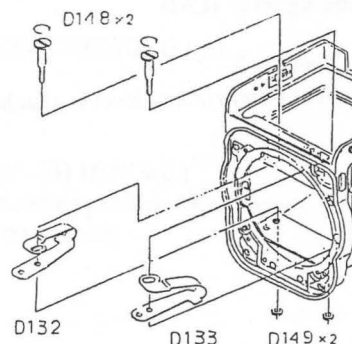
-2) Loosen D149 (2), screw in D148 (2), and create a gap between the mirror sheet and the damper plate (D132, D133).

-3) Adjust 1: Adjust the mirror angle with D148 on the grip side.

-4) Adjust 2: Adjust to zero the gap between the mirror sheet and D133 with the other D148.

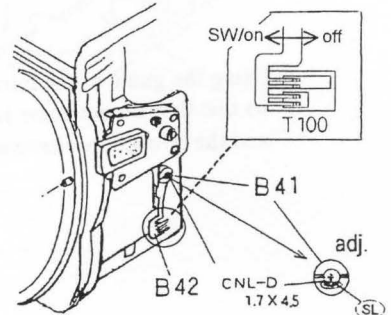
-5) Fix with D148 (2) and check again.

After adjusting and checking, apply screw lock D148.

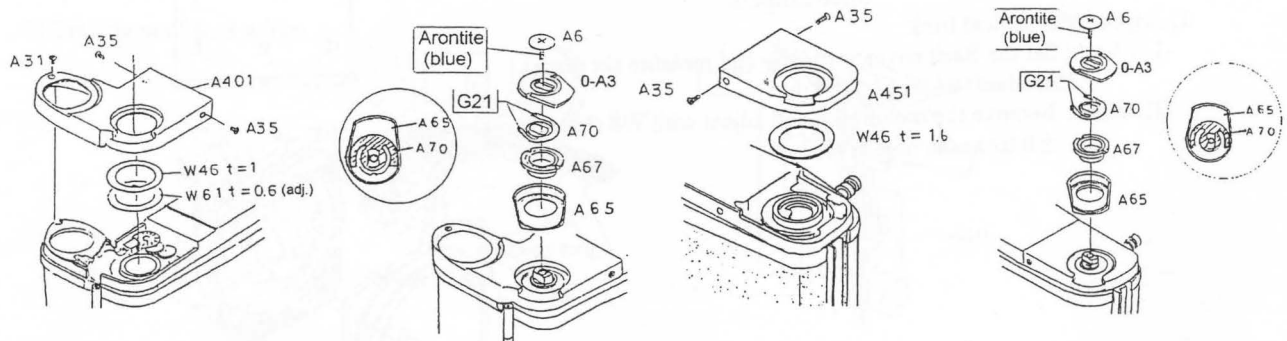


- 

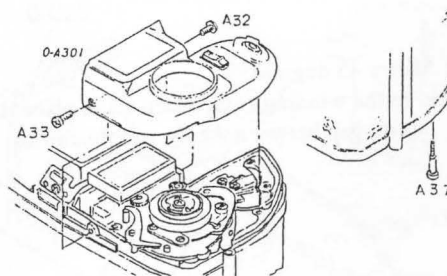
- 
- Diagram showing a rectangular block of length  $1.4(1.2)$  being pushed by a force  $F$  against a wall.



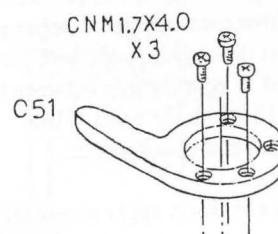
Apply the Arontite (Blue) to the screw part of A6 (2)



\* Tighten screws while depressing O-A301.



(The cover of the winding lever is attached later.)

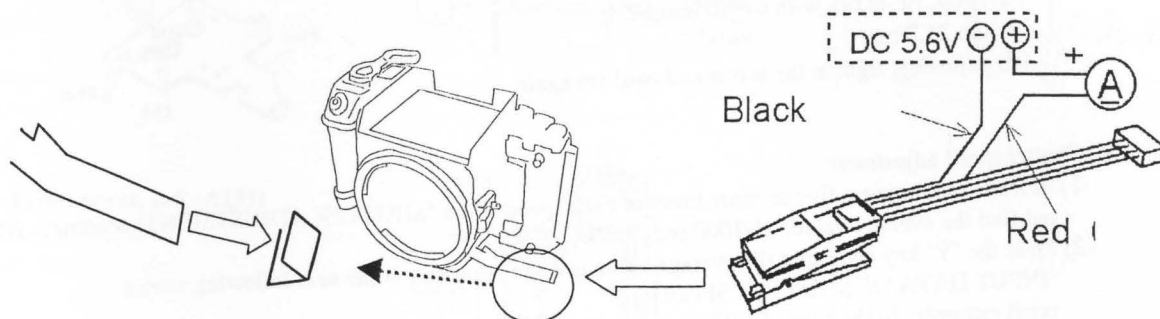




## 2.20 Static current, operation check (check)

Equipment to be prepared: Camera adaptor, constant voltage power supply, ammeter (circuit tester).

- 1) Peel away T18 at the tip of T100 flex for communications use with the battery not inserted.
  - 2) Set the constant voltage to DC5.6V (over 3A).
  - 3) Bring into contact the camera adaptor, T100 on the body, the constant power source, and the ammeter.
- (Red: plus (+), black: minus (-))



- 4) Attach the battery cover to the body. (Operate the reset switch.)
- 5) Check: Make sure that there is no shorting or leakage in the circuit.

\* Static current

With main switch off: under 50  $\mu$ A.

With main switch on/Meter switch off: Under 200  $\mu$ A.

- 6) Check: Check the LCD display.
- 7) Check: Check winding and release.
- 8) Check: Check multiple exposure.
  - 1) Remove the camera adaptor and insert battery.
  - 2) Open the back cover and make sure that the winding spool is not rotating when the multiple exposure lever is operated and winding occurs.

## 2.21 Curtain speed, shutter speed adjustment (adjust)

Equipment to be prepared: 27340 program software, computer, contact materials, camera adaptor, shutter tester.

NB: A good deal of running-in is required before adjusting when replacing the shutter curtain.

### 2.21.1 Curtain speed adjustment (adjust)

- 1) Supply power to the body.

(Batteries may be used. Make sure that the red and black wires of the camera adaptor do not short.)
- 2) Set the body onto the shutter tester.

Note: Open the back cover and wind with multiple exposure, Operate the shutter with the bulb.
- 3) Attach the body to a computer with the camera adaptor.

(The method of connection is the same as with the MZ camera or 645N.)
- 4) Run the 27340 program software and select "SHUTTER ADJUSTMENT" as shown below.

```
27340 TEST PROGRAM --- Press key [1]. When replacing T100, press key [2] and adjust the battery level
                        ↓ before going on to adjustment.
CHECK THE CAMERA ---- If A537 is attached to the grip section, press [1]
                        ↓ If it is not attached, press [2]. See 4.3 6) (page 29).
MAIN MENU ----- Press key [1].
                        ↓
SHUTTER ADJUSTMENT
```

[Note] In case of replaced T100, run the EEPROM CHECKING first.

### 5) Curtain speed adjustment (adjust)

- 1) Wind and release by pressing key [1]. ([1]: 1/1000 sec., [2]: 1/500 sec., [3] 1/250 sec.)

Standard: Curtain speed 22.9 +/- 0.5 ms (62 mm running, 1/1000 sec., using parallel optical testing device).

Note: Slow speed operation is possible when the [7], [8] or [9] keys are pushed.

[7]: 1/4 sec., [8]: 1/2 sec., [9]: 1 sec.

-2) Loosen E-65 installing screw, turn E83 and adjust.

Curtain speed during adjustment:

+/- 0.3 ms (22.6 - 23.2 ms)

Curtain speed difference:

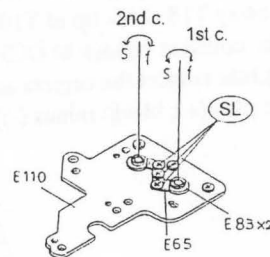
1<sup>st</sup> curtain should be 0.1 to 0.2 ms faster than the 2<sup>nd</sup> curtain.

Note: In the case of an oblique light testing device such as

LF-5000, LF-8000, with 67\_105mm f2.4,

→ aim 21.2 ms

-3) After adjusting, tighten the screw and confirm again.



## 6) Shutter speed adjustment

-1) Release and measure five or more times at each speed at the 'SHUTTER ADJUSTMENT' screen, and find the average value. (1/1000 sec., 1.500, 1/250)

-2) Press the 'Y' key and input the average value into the computer at the next following screen. 'INPUT DATA OF SHUTTER SPEED'

Input example: In the case of 1.23 ms, press the keys in the following order: '1', '.', '2', '3' and 'Enter'

7) Go back to the 'MAIN MENU' and detach from the computer.

8) After adjusting and checking, apply screw lock to the three E65 installing screws.

NB: a) Except when replacing T100, accurate adjustment will be impossible unless measurement is carried out when connected to a computer.

b) T100 flex for connection purposes should be handled carefully so as to ensure that it is not subject to twisting and stress.

c) After disconnecting, if there is 'No LCD display' or 'Release is impossible' are occurred, reset the circuit by removing the battery cover.

## 2.22 Shutter bounce adjustment (adjust)

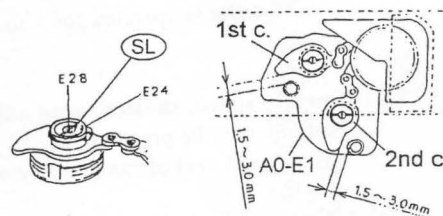
1) Adjust: After release, the gap between the stopper of the Damper mech. (AO-E1) should be between 1.5 and 3.0 mm.

Curtain edge should be invisible from the aperture.

2) Adjust: Loosen the install screw of AO-E1 and rotate the inner adjusting nut.

Tighten the install screw (take care not to tighten excessively) and check once again. (During adjustment: 2.0 to 2.5 mm)

3) After adjusting, apply screw lock to the set-screw.



## 2.23 PCV holder (A87)

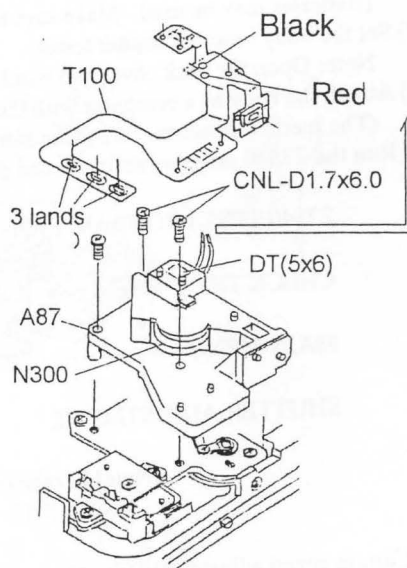
1) A87, N300

2) CNL-D1.7 x 6.0 x3

3) Attach the flex with DT (5x6).

4) Solder three lands and two lead wires.

Treat the lead wires between the mirror box.



## 2.24 Right side cover (O-A111)

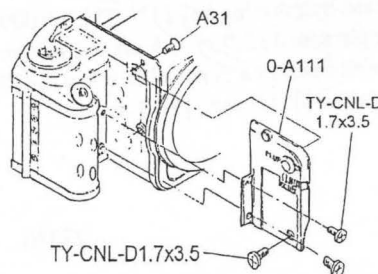
1) Wipe the land section of T100 (M.UP: mirror up).

2) O-A111

3) TY-CNL-D1.7 x3.5 x3

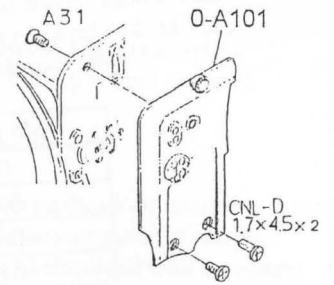
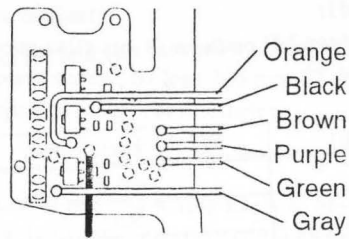
4) A31

5) Check: Check operation of the M.UP lever.



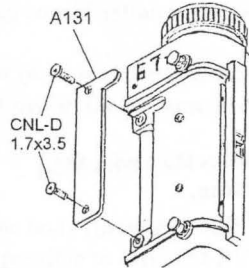
### 2.25 Left side cover (O-A101)

- 1) Solder six lead wires.
- 2) Treat the lead wires so that they do not get caught up and attach O-A101.
- 3) CNL-D1.7 x4.5 x2
- 4) A31



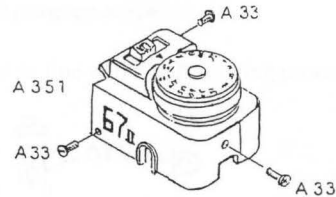
### 2.26 Front cover, left (A131)

- 1) CNL-D1.7 x3.5 x2



### 2.27 Top cover, left (O-A351)

- 1) Wipe the land and ensure that there is no dirt and that the contacts are not bent.
- 2) Attach O-A351 from directly above.
- 3) A33 x3

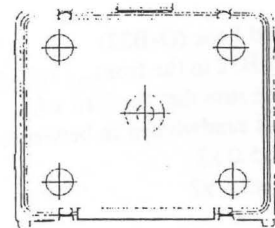


### 2.28 Focus adjustment (adjust)

Equipment to be prepared: Focus standard lens,  
Collimator, loupe, Standard focusing screen (BA-61, BB-61, etc.)

#### 1) Check:

- 1) Operate the shutter two or three times and set to the winding complete state.
- 2) Prevent any looseness of the focusing screen and check the focus at the centre and in the four corners.  
Standard:  $0 \pm 0.03$  mm  
(focus standard lens: 1 gradation 0.02 mm)



#### 2) Adjust:

- 1) Loosen CNS 1.7 x3.5 (4) and adjust with ST-F2.0 x2.0 (4). (During adjusting:  $0 \pm 0.02$  mm)  
\* Turn ST-F2.0 x2.0 once and M3 will move 0.4 mm.

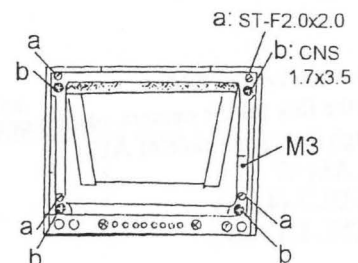
In the case of out of focus toward plus (+) side,  
screw in ST-F2.0 x2.0.

In the case of out of focus toward minus (-) side,  
loosen ST-F2.0 x2.0.

- 2) After adjusting, tighten CNS1.7 x3.5 (4 items)  
and check again.

- 3) After adjusting and checking, apply screw lock securely  
to CNS1.7 x3.5 and ST-F2.0 x2.0.

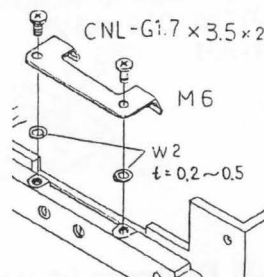
Note: The provisional position of the focus should be  
one rotation from the contact position of ST-F.2.0 x2.0.



## 2.29 Focus screen frame (M1)

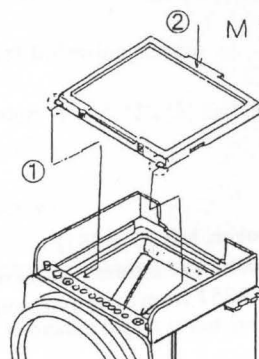
- 1) Check: Check the gap between M3 on the rear side and the height direction of the mirror box and select W2 in line with the table below.

| M3 gap (mm) | W2 thickness (mm) |
|-------------|-------------------|
| 0~0.2       | t= 0.2            |
| 0.2~0.4     | 0.3               |
| 0.4~0.6     | 0.4               |
| 0.6~0.8     | 0.5               |



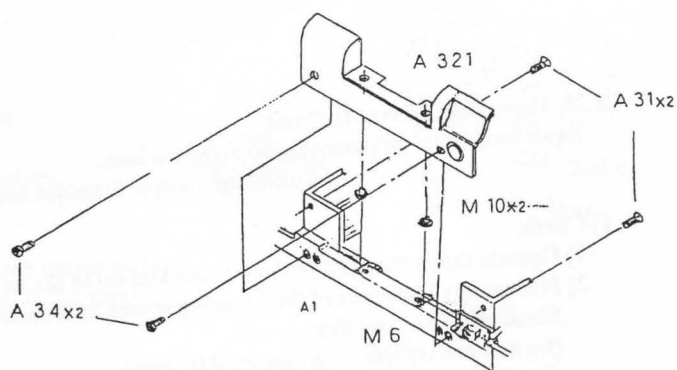
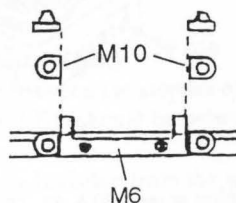
- 2) W2 x2, M6, CNL-G1.7 x3.5 x2

- 3) Attach M1 by pushing in from the front.  
(Apply L115 to the area which comes into contact with M6.)
- 4) Check: Check attachment of the focus screen.  
Attach and remove two or three times  
and then attach securely,  
making sure that there is no looseness, etc.



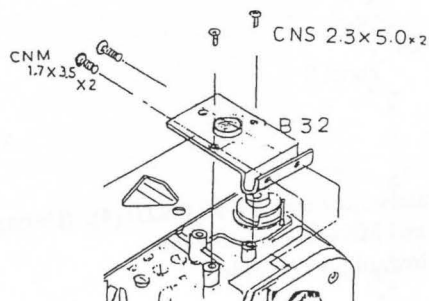
## 2.30 Rear cover (A321)

- 1) M10 x2
- 2) A321
- 3) A31 x2, A34 x2



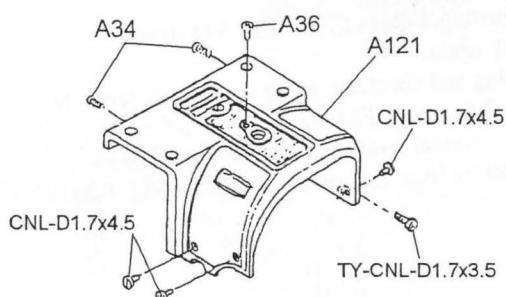
## 2.31 Tripod base (O-B32)

- 1) Apply O-B32 to the front.  
NB: Make sure that the lead wire  
is not sandwiched in between.
- 2) CNS2.3 x5.0 x2
- 3) CNM1.7 x3.5 x2



## 2.32 Bottom cover (A121)

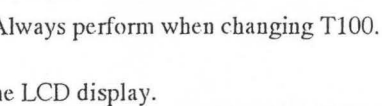
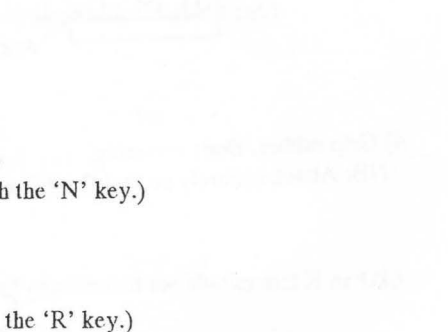
- 1) Pass the flex for the camera adaptor contact  
through the square hole of A121.
- 2) A36, A34 x2
- 3) CNL-D1.7 x4.5 x3
- 4) TY-CNL-D1.7 x3.5



4. Shutter tester (for light sources),

- have an effect on the electromagnetic waves,  
 1. Communication with the computer (I/O error).  
 2. Test and check beforehand with a constant  
 voltage (2.0V or 4.30V, 4.00V) comes directly to  
 the camera adaptor and the position of the  
 3. Make adjustment of the battery warning level.  
 4. Close the Back cover in alignment

- the light).
- ment and to check the display of the
- with the MZ camera or 645N.)
- (Do not forget to attach the battery cover.)
- ware.
- the following procedure.



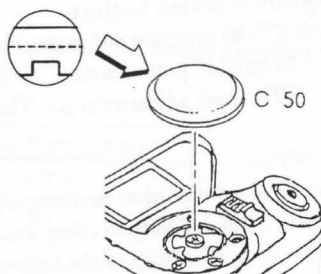
en.

software flow chart.)



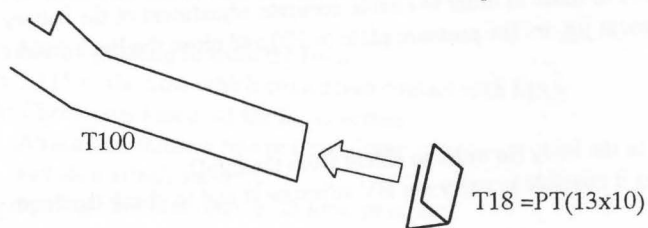
### 2.34 Grip rubber, Body covering

1) C50 (notched section on LCD window side)

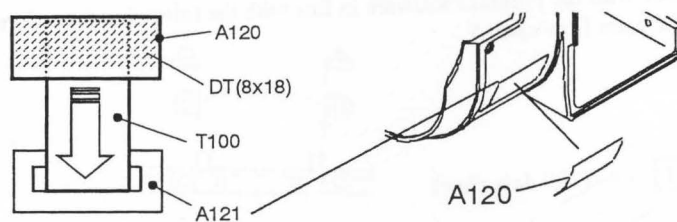


2) Remove the battery and stick T18 to the tip of the T100 flex.

Push in the flex from the root in the direction of the tripod base and leave the tip.

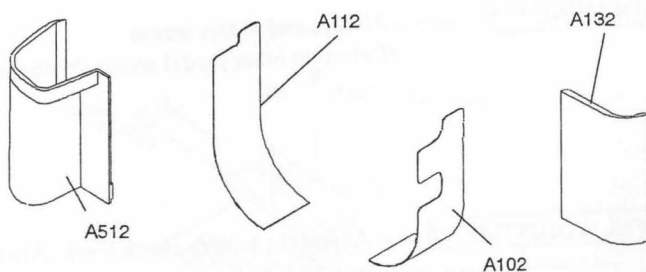


3) Stick A120 to the tip of the T100 flex and attach to A121.



4) Grip rubber, Body covering

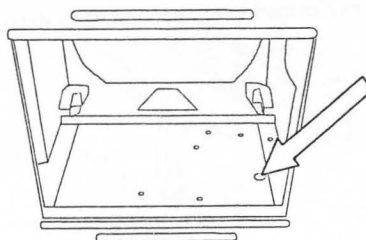
NB: Attach securely so that there is no misalignment or looseness.



### 2.35 Application of black mat paint

Set to time exposure and apply black mat paint to arrowed area inside the mirror box from the rear.

Apply also to shiny areas such as areas where the paint has come off.



### 2.36 Inspection guidelines (check)

#### 1) Winding check

- 1) Check on operation of the winding lever click angle at pull-out and housing.
- 2) Check on catching and faults during winding.
- 3) Check during return of winding lever.

#### 2) Curtain speed, shutter speed

- 1) Curtain speed: 22.9 +/- 0.5 ms (1/1000 sec. during 62 mm running. Parallel light testing device used.)  
(Ref.: 24 ms / 69.5 mm during running.)

#### -2) Manual shutter speed (standard)

|        |              |
|--------|--------------|
| 1/1000 | 0.74~1.53 ms |
| 1/500  | 1.53~2.58 ms |
| 1/250  | 3.17~4.81 ms |
| 1/60   | 13.6~17.9 ms |
| 1/15   | 56.3~69.3 ms |
| 1/4    | 225~277 ms   |
| 1      | 901~1,110 ms |
| X      | 31.2~41.2 ms |

#### -3) Exposure unevenness

Difference during exposure at 2 random locations: 0.45 EV or less

Difference between aperture center and one other location: 0.35 EV or less

#### -4) Auto-shutter speed (reference values)

|       |              |         |
|-------|--------------|---------|
| LV 15 | 1.48~2.58 ms | ±0.4 EV |
| 12    | 12.7~19.2 ms | ±0.3 EV |
|       |              |         |
| 6     | 812~1231 ms  | //      |

(With standard lens jig and standard AE Penta jig. Not supplied by the service department.)

#### 3) X time lag:

1<sup>st</sup>: 1.2 ms or over

2<sup>nd</sup>: 3.3 ms or over

(1/30 sec., 62 mm running)

#### 4) Flash firing check

Attach the flash unit to the body and ensure that it fires without lacking of exposure at the shutter dial X or 1/30 position.

#### 5) Mirror operation check

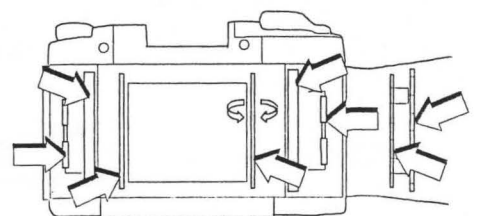
- 1) Press the mirror sheet with the fingers, release the shutter with B (bulb) and raise slowly.  
When this is done, check that there is no catching and that it does not stop halfway.
- 2) Place the camera upside down, release the shutter with B, and wind up again.  
When this is done, check that the mirror does not rise.

#### 6) Back cover opening and closing check

The back cover should open and close smoothly when opened and closed several times. There should be no creaking noises or any other unusual noises. The cover should not come into contact with the top and under covers.

#### 7) Check rollers on each part

- 1) Check that there are no rotation faults, creaking or looseness when the rollers on each of the parts of the body and inside the back cover are rotated.
- 2) Make sure there are no scratches or dirt which might effect the film on the rollers of film plane and counter rollers.



8) Diaphragm coupler ring (0-K102)

Rotate the Diaphragm coupler ring (0-K102) and make sure that it moves smoothly and returns to its original position.

9) Finder attachment and removal

- 1) When the finder lock button is operated, there should be rotation and thrust pressure.
- 2) When the finder is removed and attached, there should be no looseness to attachment and lock cancellation should take place without undue strain.

10) Film transport, Multiple exposure

When shooting with the 120 or 220 film aligned with the prescribed start mark, the number of shootable exposures, the start of the first frame from the start mark, and the distance to the end of the final frame should satisfy the conditions specified below. There should be no misalignment of the image when carrying out multiple exposure photography.

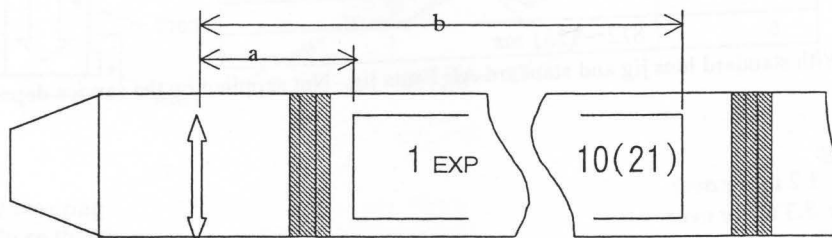
Number of shootable exposures

120 film: 10 frames

220 film: 21 frames

Position of picture:

|          | a              | b               |
|----------|----------------|-----------------|
| 120 film | 211 mm or over | 981 mm or less  |
| 220 film | 211 mm or over | 1791 mm or less |



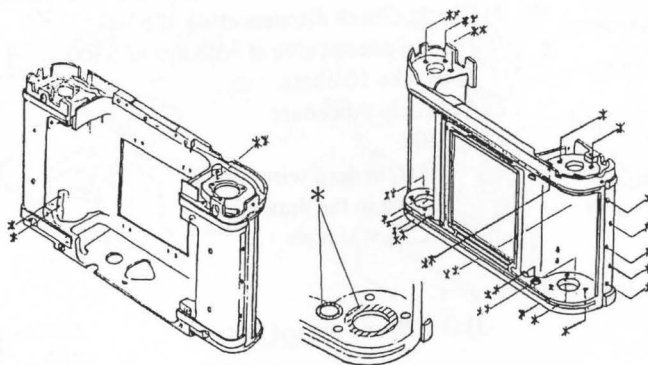
### 3. Body II

- Disassembly and assembly should be carried out in accordance with the following description and with reference to the parts list disassembly drawing.

[Precautions when assembling]

#### 3.1 Application of L114

Apply L114 (oil barrier) to the spool shaft, the film roller attachment sections (upper and lower), and the areas marked in the drawing with an asterisk. (In order to prevent oil seeping into the film chamber.)



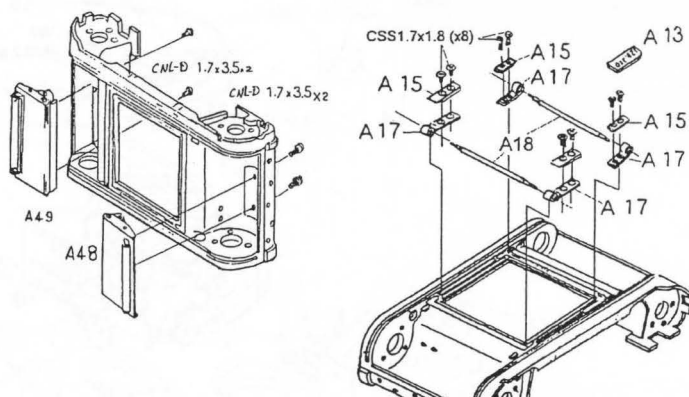
#### 3.2 Film retainer roller parts

##### 1) O-A48, O-A49

Check operation of the hinges.

##### 2) A18

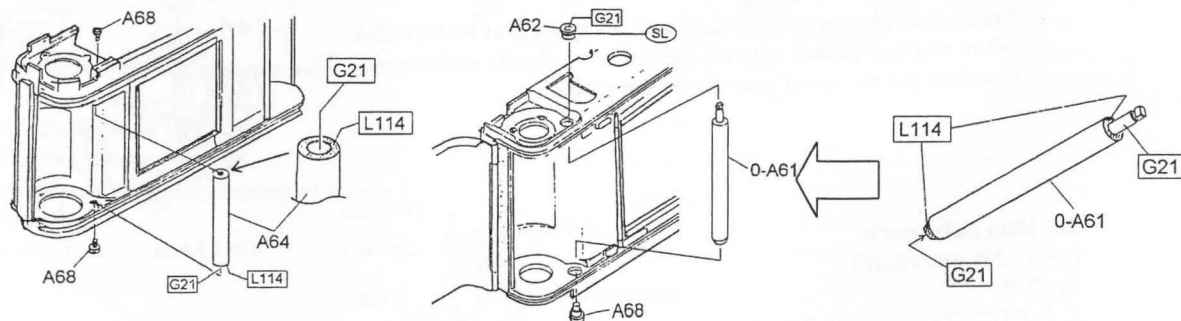
Vertical looseness should be within a range of 0.1 to .02 mm.



##### 3) A61, A64

Apply G21 and L114 to the areas in the drawing.

##### 4) Check: Make sure that the above rollers are rotating smoothly.



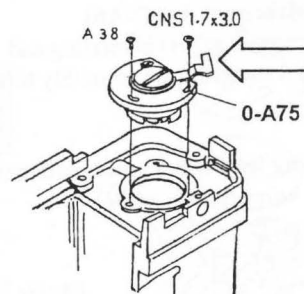
#### 3.3 Back cover key, Back cover (assy.) and related parts

##### 1) Check: Make sure that the tip of the O-A75 lever does not come into contact with the body.

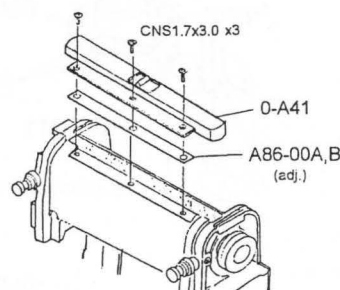
##### 2) Check: Open and close the Back cover and make sure that it is functioning smoothly.

Adjust: Contact of the Back cover key should be adjusted by replacing A86.

A86-00A (t=0.2),  
-00B (0.3)



##### 3) Check: Check rotation of the Back cover rollers and switching of the pressure plate (120 ↔ 220).



### 3.4 Winding Mg, spool shaft and related parts

Equipment to be prepared: Circuit tester,  
27340-0-C30 check jig

#### 1) Check: Check disconnection of S300.

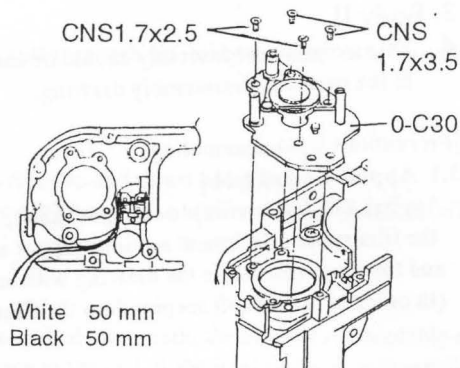
The resistance value at both tips of S300  
should be 10 ohms.

#### 2) Assembly procedure

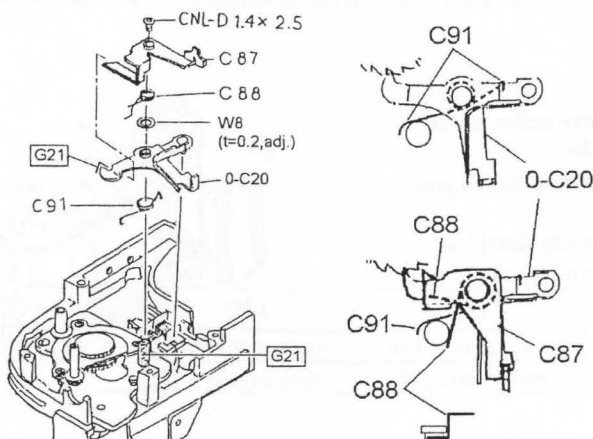
##### -1) S300

Treat the lead wires as  
shown in the drawing.

##### -2) O-C30, 4 screws

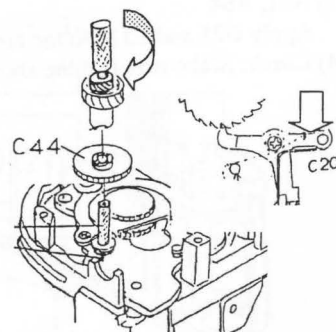


##### -3) O-C20 and related parts



#### 3) Check: O-C30 check

- 1) Attach C44 (align the groove with C94 spring), and check for smooth rotation with the jig.
- 2) Remove adsorption of S300 and latch the spool gear with O-C20.
- 3) When rotating quickly with the jig, the catch should not become detached and the spool gear should not rotate.



### 3.5 Film pulse parts

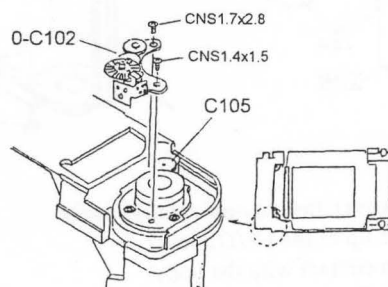
[Assembly procedure]

#### 1) C105

#### 2) O-C102 (T321, T322), 2 screws

#### 3) Check: Make sure that O-A61

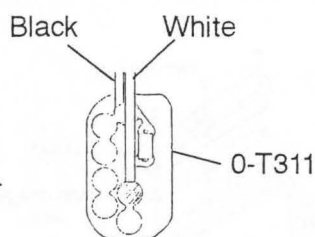
(counter roller) is rotating and  
that the gears are smoothly turning.



### 3.6 Soldering lead wires and treatment

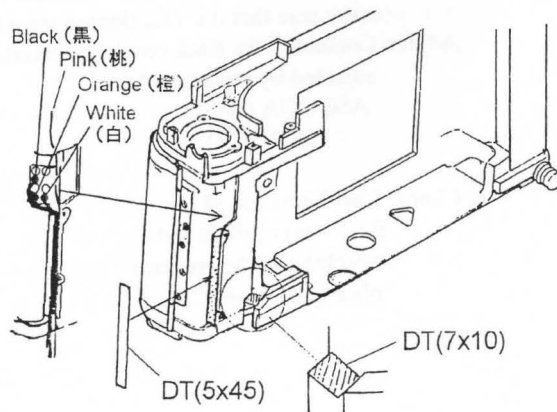
#### -1) 2 lead wires (black, white) ↓

A300 ---- O-T311



#### -2) Treatment of lead wires →

Black, orange, white  
Pink (free)



#### 4. Body unit parts

- Disassembly and assembly should be carried out in accordance with the following description and with reference to the parts list disassembly drawing.

##### 4.1 Upper cover right (A301) and related parts

[Assembly precautions]

1) A301... Apply G126.

2) A305... Apply G126.

Attach by moving in the arrowed direction in the drawing.

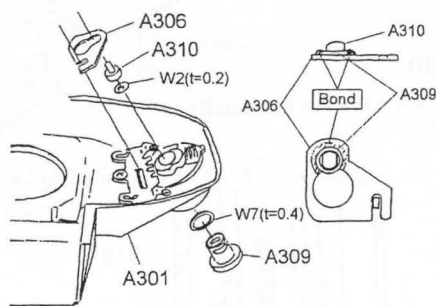
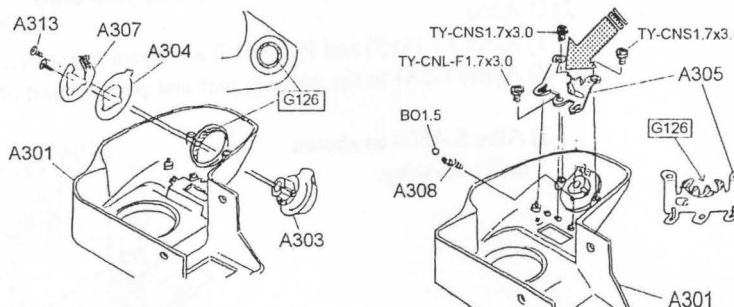
3) Main SW dial (A303)

Check: Check operation of the dial.

(L ↔ ON ↔ Self-timer)

4) A306, A309 (release button)

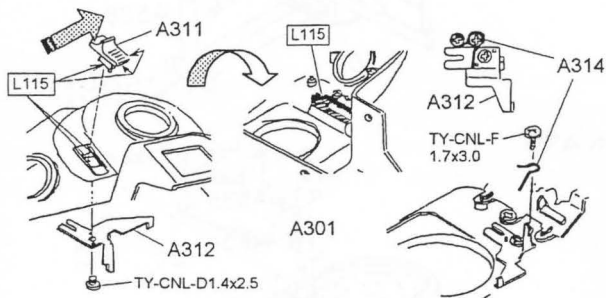
Fix the area in the drawing with adhesive.



5) A311 (multiple operation lever)

a) Apply L115 to A301.

b) Attach A314 (spring).



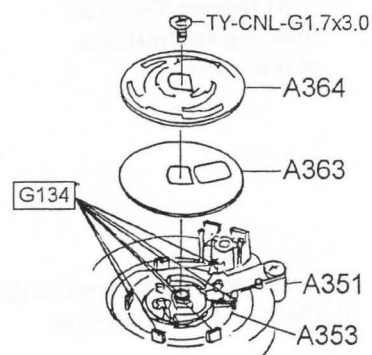
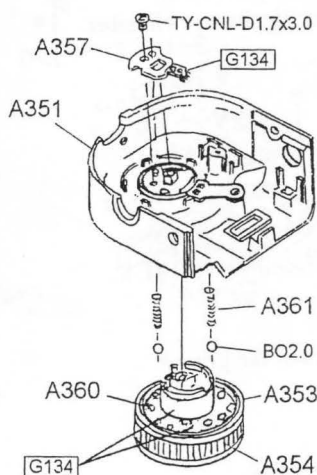
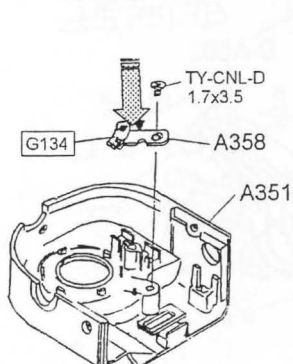
##### 4.2 Top cover left (A351) and related parts

[Assembly precautions]

1) A358 (Tv dial stopper plate)

Apply G134 and attach by moving as shown in the drawing.

2) A351... Apply G134 and L115.



3) I221 (Tv brush)

Check: Turn the Tv dial and make sure

that the brush is coming

securely into contact with the whole land circumference.

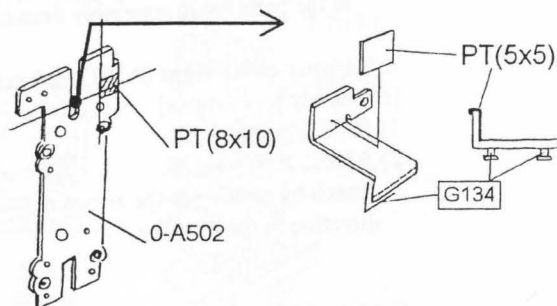
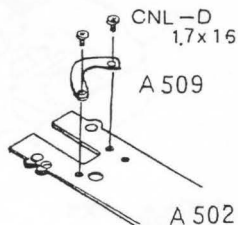


### 4.3 Grip (assy.) (O-A501) and related parts

#### [Assembly precautions]

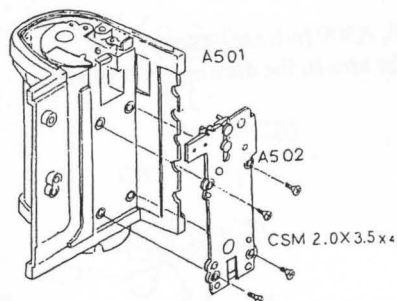
- 1) A514 (Battery contact), 1 red lead wire (130 mm)
- 2) O-A502
  - 1) Affix PT (5x5) and PT (8x10) as shown in figure..
  - 2) Apply G134 to the moving part and pointed part of figure.

- 3) Attach A509 as shown in the drawing.

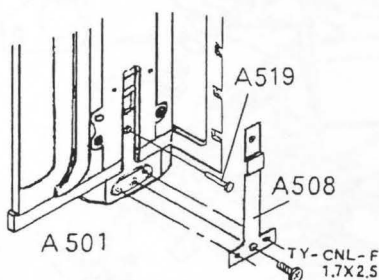


- 4) Attach O-A501.

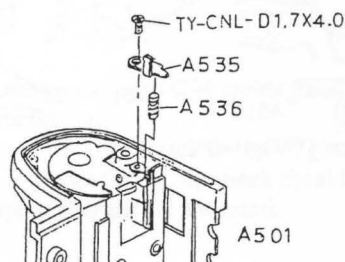
NB: Tighten the 4 screws diagonally. →



- 3) A508, A519



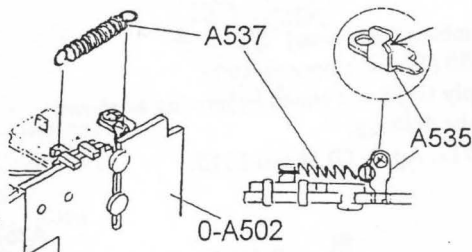
- 4) A536, A535



- 5) A537

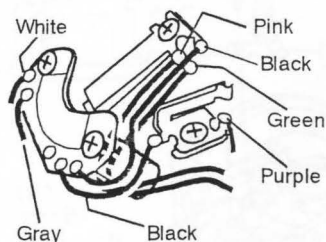
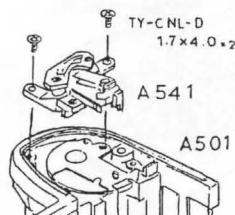
(NB: Not used in early mass-produced units.)

Check: Check that the linkage lever operates smoothly when the two batteries (CR123A) are inserted and removed from the battery chamber.



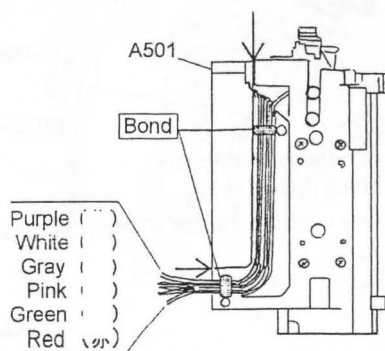
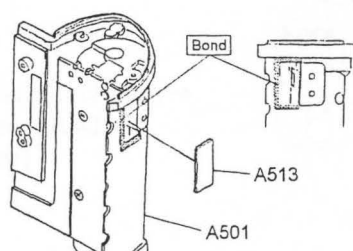
- 6) A541 (release SW stand)

Soldering and treatment of lead wires



- 7) Treatment of 6 lead wires on the back of the grip →

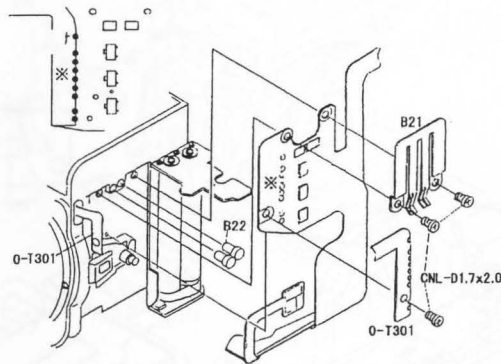
- 8) Attach A513 with adhesive.



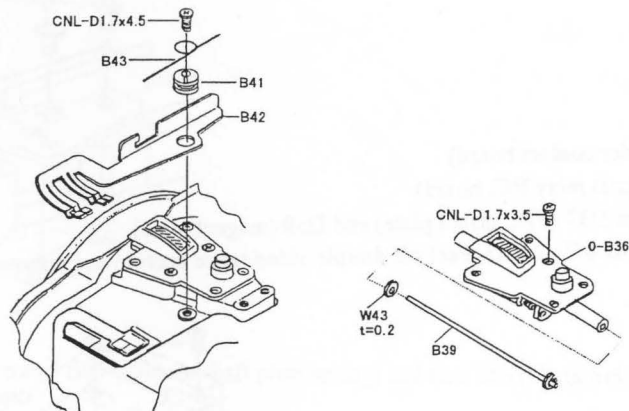
## 5. Disassembly of mirror box

1. Remove CNL-D1.7 x2.0 x2; B21 (focus screen SW contact), B22 (focus screen SW pin) x2.  
Remove CNL-D1.7 x2.0 and lift up T100 – O-T301

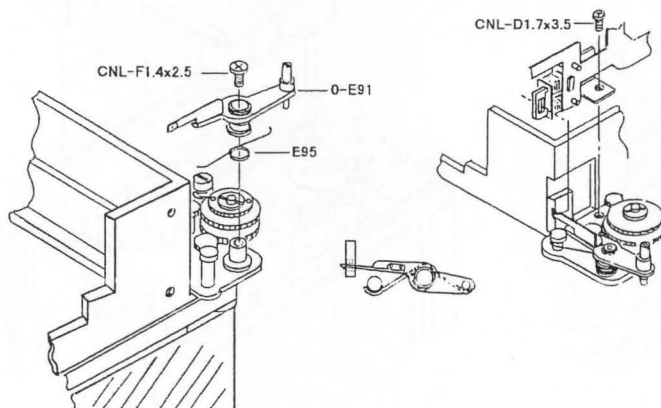
Soldering



2. Remove CNL-D1.7 x4.5; B41 (AM SW collar), B42 (AM SW), B43 (AM SW spring).  
Remove CNL-D1.7 x3.5; O-B36 (lock-pin guide assy.).



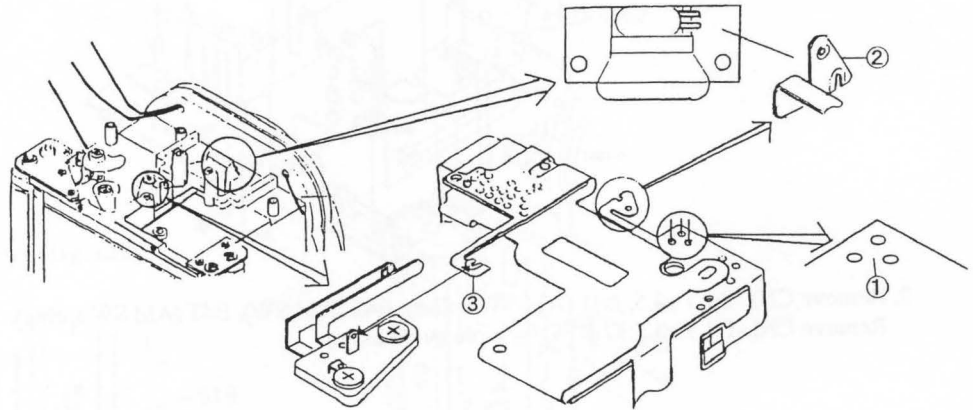
3. Remove CNL-D 1.7 x3.5, CNL-F 1.4 x2.5, S300 section (winding magnet), O-E91 (duality prevention lever assy.), O-E95 (duality prevention lever spring).  
NB: Take care not to bend the plate spring section of O-E91.



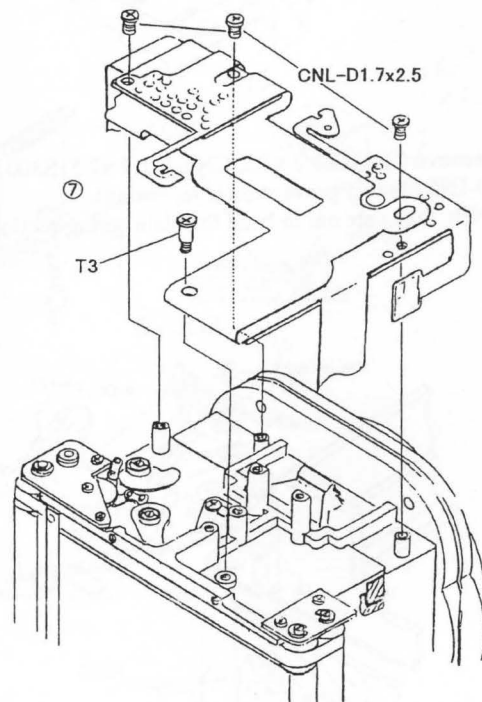
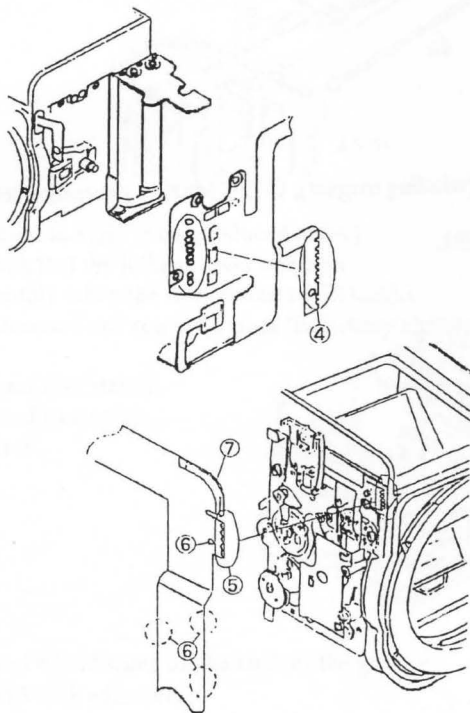
#### 4. Detach T100 (main P.C. board)

##### Unsoldering.

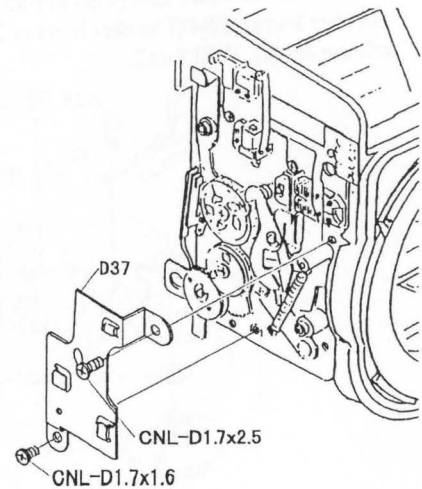
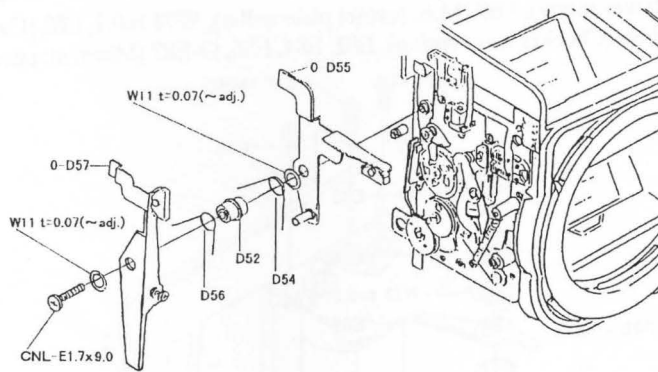
- ① 3 Lead wires, black, blue and brown.- K101 (Resistor)
- ② 2 land areas O-J201 (Light sensor)
- ③ 1 land area J230 (X contact)



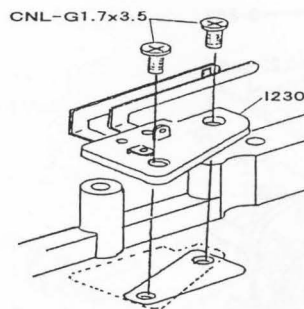
- ④ 9 land areas O-T301 (Viewfinder contact board)
- ⑤ 5 land areas T331 (Shutter magnet relay P.C. board)
- ⑥ Remove from guide sections of D37 (FPC install plate) and D59 (magnet plate).
- ⑦ T3 (FPC retainer screw), CNL-D 1.7 x2.5 x3, Peel off double-sided taped section and remove T100.



5. Remove CNL E 1.7 x9.0, O-D57 (1st curtain lever assy.); O-D55 (2nd curtain operation lever assy.), D56 (1st curtain release spring), D52 (Shutter curtain stopper hook collar), D54 (2nd curtain release spring), remove CNL-D1.7 x1.6, CNL-D1.7 x2.5; D37.

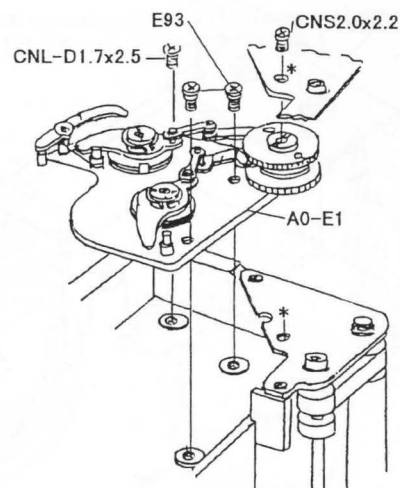
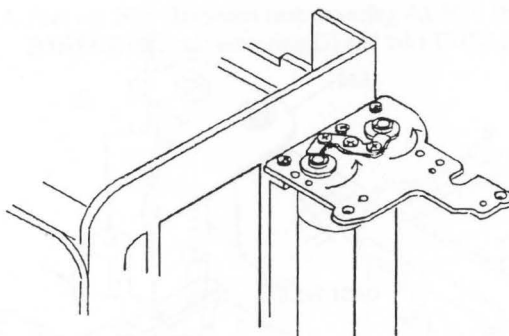


6. Remove CNL-G 1.7 x3.5 x2 and take I230.



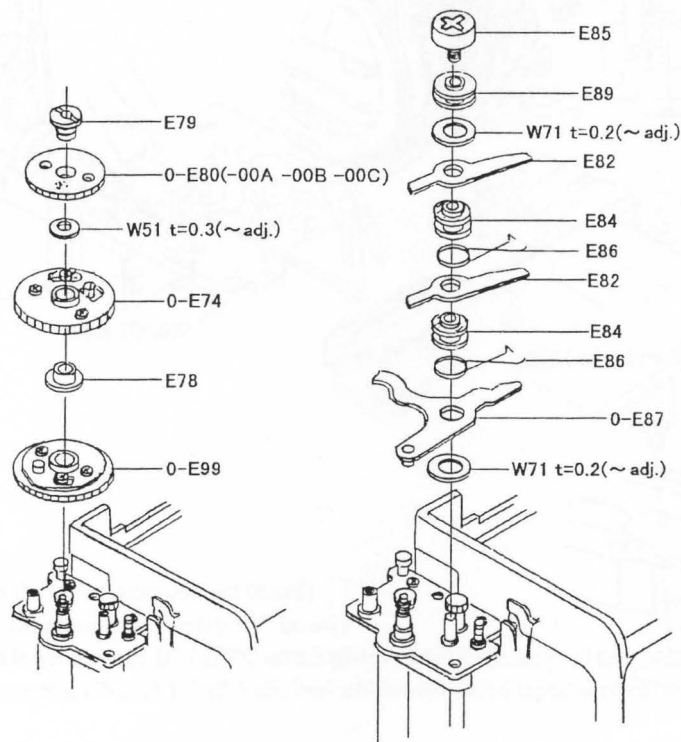
7. Loosen the two screws of E65 (Curtain shaft plate spring) and turn E83 (Curtain checker lever) anticlockwise to release tension.

8. Remove the total of four screws, E93 x2, CNL-D1.7x2.5 and CNS2.0 x2.2, and remove AO-E1 (Damper mechanism assy.).



9. Remove in the order E79 (Selector shaft nut), O-E80 (Charge gear), W51 t=0.2 (~adj), O-E74 (1st selector gear assy.), E78 (Selector shaft collar) and O-E99 (2nd selector gear assy.).

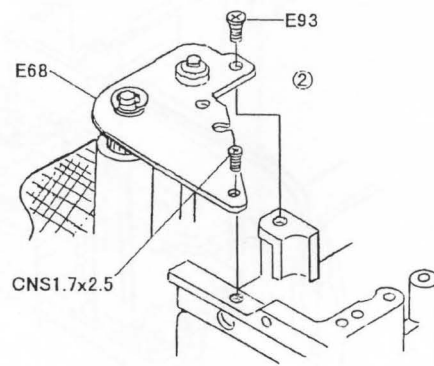
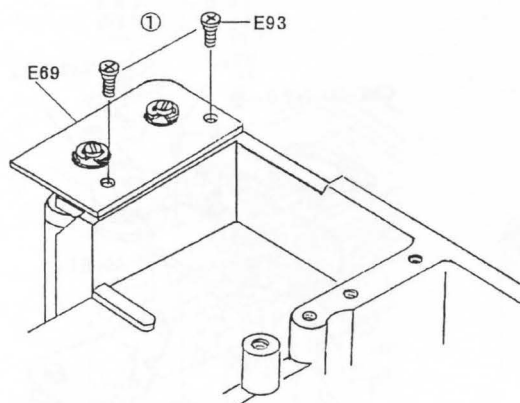
10. Remove in the order E85 (Checker lever retainer screw), E89 (M.E. restrict plate collar), W71 t=0.2, E82 (Curtain checker lever), E84 (Checker lever collar), E86 (Checker lever spring), E82, E84, E86, O-E87 (Mirror stopper release lever), W71 t=0.2.



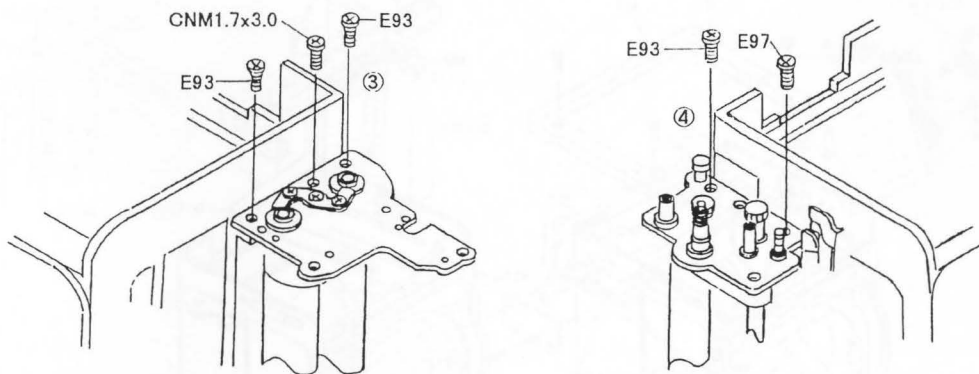
11. A0-E59 (2nd shutter curtain assy.), A0-E63 (1st shutter curtain assy.)

① Remove E93 (Shaft plate retainer screw) x2.

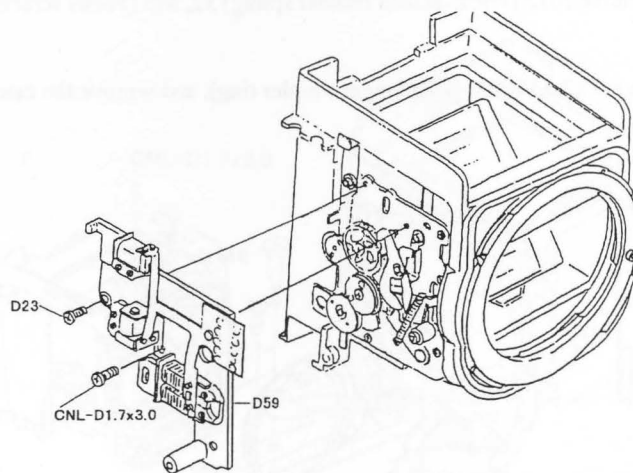
② Remove E93, CNS1.7 x2.5.



- ③ Remove E93 x2, CNM1.7 x3.0, E110 (Curtain shaft pedestal).
- ④ Remove E93, E97 (Shaft plate A retainer screw), CNS1.7 x4.5.
- ⑤ Remove Shutter curtain block from the Mirror box.

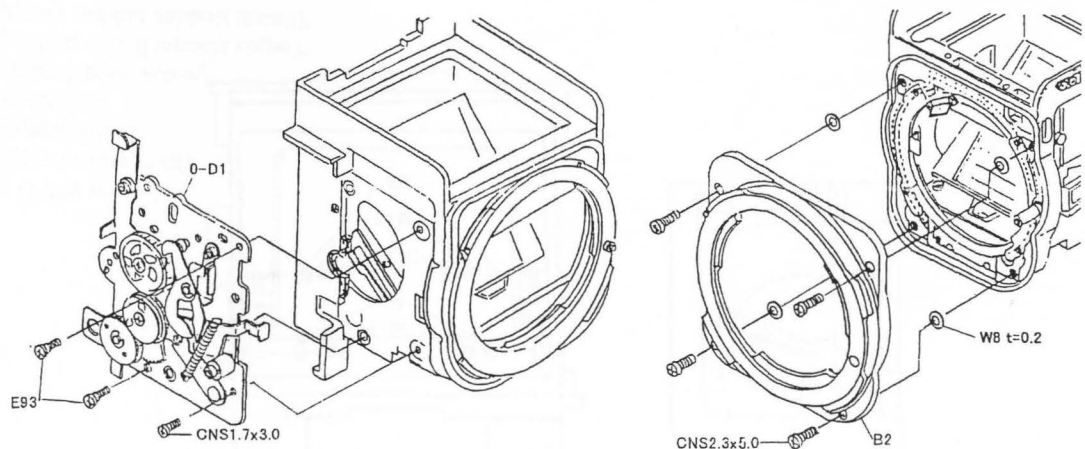


12. Remove D23 (Magnet plate retainer screw), CNL-D1.7 x3.0 and take D59 (Magnet plate).



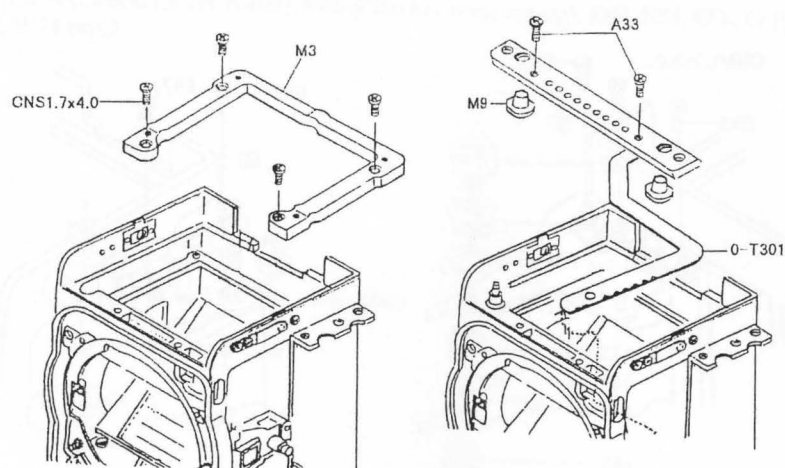
13. Remove E93 x2, CNS1.7 x3.0 and detach O-D1 (Mirror base plate) from The Mirror box.

14. Peel off B55 (Bayonet seat covering A), B56 (Bayonet seat covering B), B57 (Bayonet seat covering C), B58 (Bayonet seat covering D) and take CNS2.3 x5.0 x4, B2 (Mount), W8 t=0.2 (~adj) x4

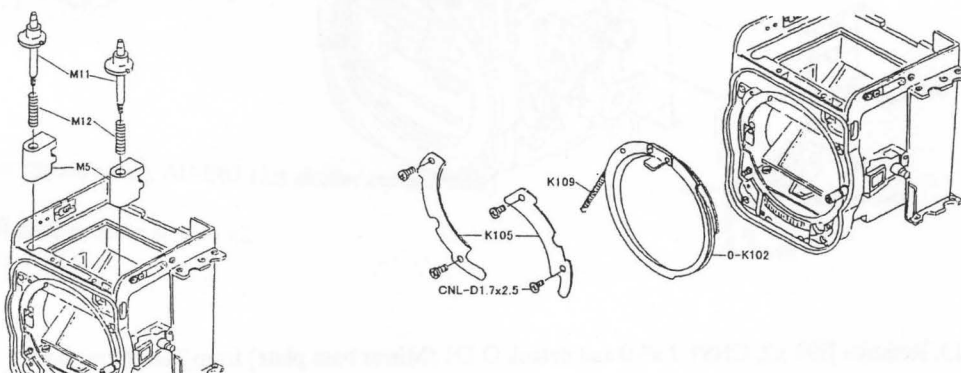




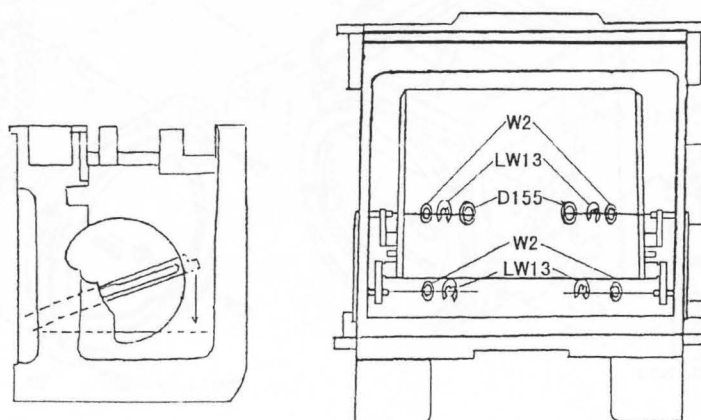
15. Take CNS1.7 x4.0 x4 and remove M3 (Focus screen adjusting plate).
16. Take A33 (Retainer screw C) x2 and remove O-T301 (Viewfinder contact board), M9 (Penta regulation rubber A)x2.



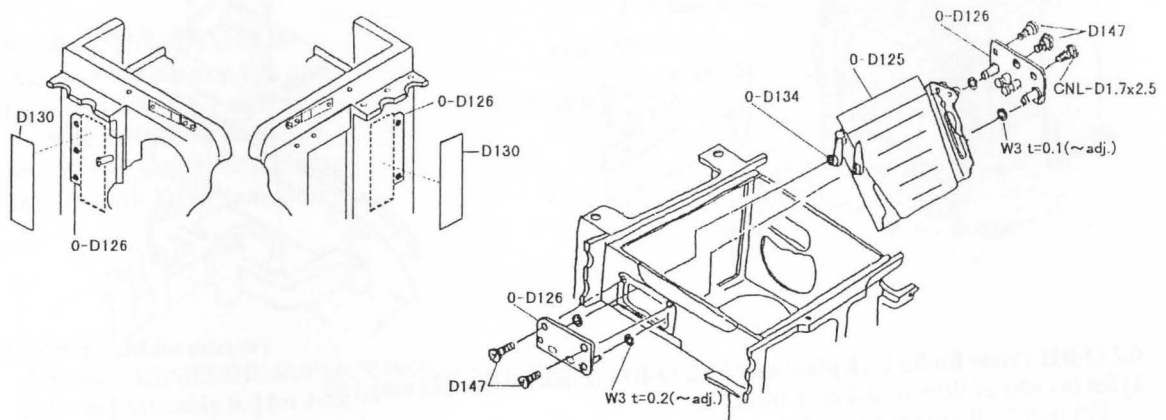
17. [Tool] 95901 K280 (Driver bit 27340-M11)  
Take M11 (Viewfinder positioning pin) x2, and remove M12 (Focus screen retainer spring) x2, M5 (Focus screen retainer) x2.
18. Take CNL-D1.7 x2.5 x4 and free K105 (Slider cover) x2, O-K102 (Diaphragm coupler ring), and remove the catch of K109 (Slider spring).



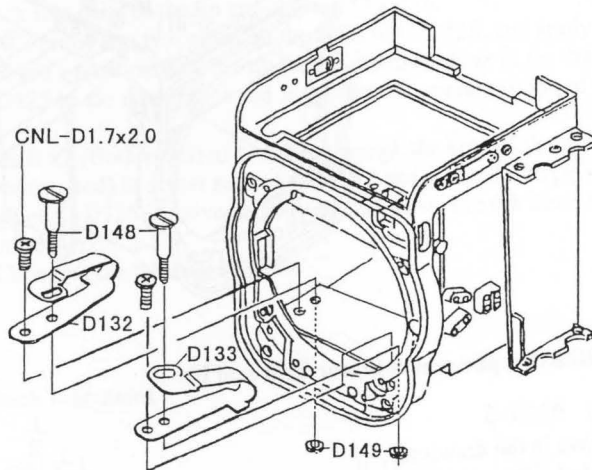
19. Turn the mirror box upside down and remove with the mirror raised in the order D155 (Anti-reflection sheet E) x2, LW13 x4, W2 x4.



20. Peel off D130 (Light seal tape) x2, remove D147 (Arm pedestal retainer screw) x3, CNL-D1.7 x2.5 (winding side), D147 x2 (Shutter dial side), and remove O-D126 (Arm pedestal) x2 and O-D125 (Mirror sheet) taking care not to mislay the washers.



21. Remove D148 (Damper plate adjusting screw) x2 while pressing down D149 (Damper plate adjusting nut) x2, remove CNL-D1.7 x2.0 x2, and take D132 (Damper plate L), and D133 (Damper plate R).



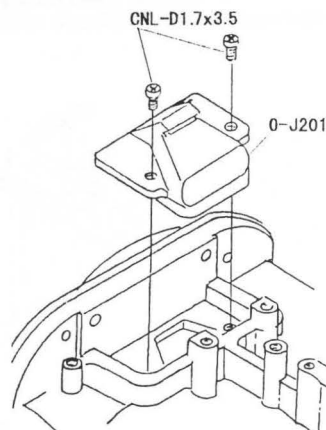
22. Parts not specifically to be removed at the training.:

- B8 (Mirror housing frame),
- D67 (Mirror stopper support spring),
- D68 (Support spring retainer collar),
- D127 (Spring hook screw),
- K101 (Resistor),
- K111 (Slider roller),
- K112 (Slider roller shaft),
- O-J201 (Light sensor).

## 6. Mirror box assembly

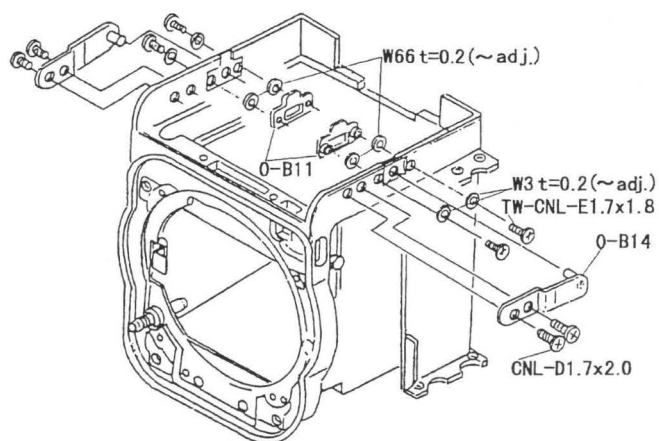
### 6.1 O-J201 (Light sensor assy.)

- 1) Set O-J201 onto the Mirror box and fix with CNL-D 1.7 x3.5 x2.



### 6.2 O-B11 (View finder lock plate assy.) x2, O-B14 (Lock release pin assy.) x2

- 1) Set in order of W66 (t=0.2 adj.), O-B11 x2, W3 (t=0.2 adj.) to the Mirror box and fix with TW-CNL-E1.7x1.8 x4.
- 2) Install O-B14 with CNL-D1.7x2.0 x4.
- 3) Check : The Pentaprism should be attached and locked securely.  
Adjust : Changing the thickness of W66.

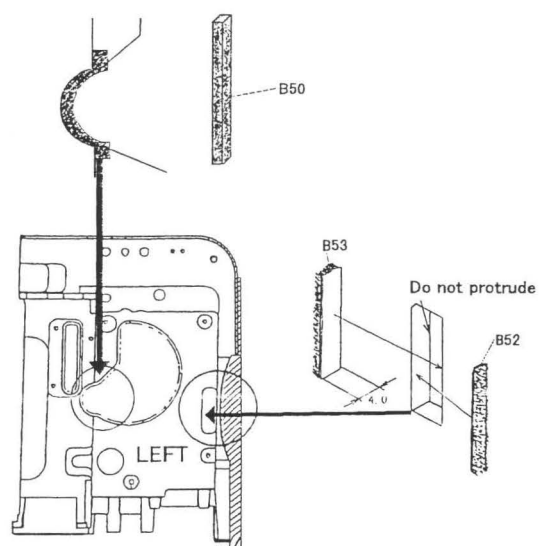
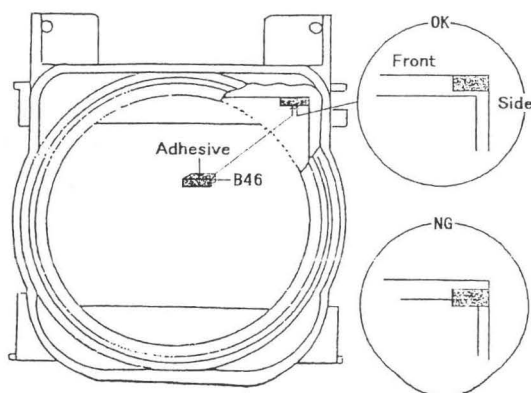


### 6.3 B50 (Light seal cushion),

B52 (Diaphragm actuator light seal A), B53 (Diaphragm actuator light seal B)

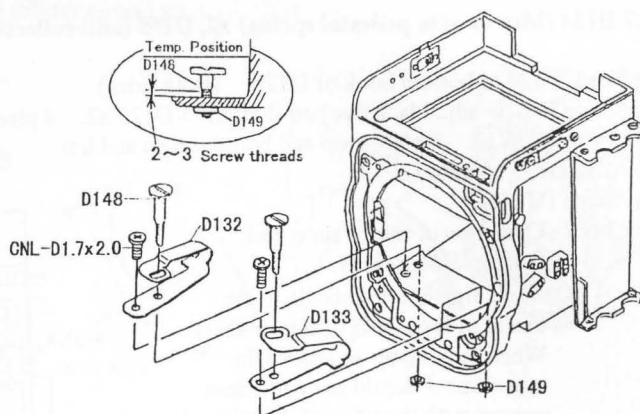
B46 (Mirror sheet cushion)

- 1) Affix B50 to the Mirror box in the place shown in the drawing.  
Check : There should be no gap at the rounded part.
- 2) Affix B46, B52 and B53 in the place shown in the drawing.



6.4 D132 (Damper plate L),  
D133 (Damper plate R),  
D148 (Damper plate adjusting screw) x2,  
D149 (Damper plate adjusting nut) x2

- 1) Install D132 and D133 on the inside of the Mirror box and fix with CNL-D1.7 x2.0.
- 2) Screw in D148 at the temporary position as shown in drawing and fix with D149 temporary.



#### 6.5 Affix L1 (Main mirror)

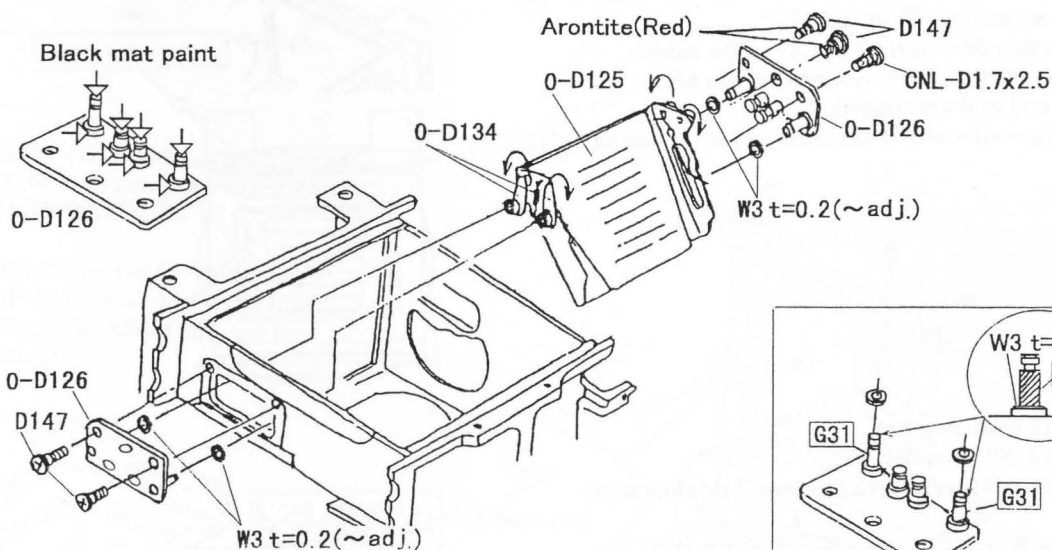
Adhesive : CEMEDINE SUPER-X (95901-S114 or S115)

Refer to [Assembly 9. ] for detail.

#### 6.6 O-D125 (Mirror sheet), O-D126 (Arm pedestal) x2, D147 (Arm pedestal retainer screw) x4

- 1) Apply black mat paint to the tip and shaft of O-D126.
- 2) Fit W3 t=0.2 (adj.) into two place on the shaft of O-D126, and apply G31 on shaft.
- 3) Set O-D134 in a position with the tip facing downwards as in the drawing.
- 4) Insert O-D125 to the mirror box and set so that the metal section of the arm can be seen from the long holes on both sides.
- 5) Pass the shaft x2 (Both sides) of O-D126 through the hole of the metal section of the arm of O-D134.
- 6) Apply Arontite (red) to screw section of D147 and screw down permanently. (2 of driving side)
- 7) Check : When O-D125 is moved lightly up and down in each direction, it does not chafe against the sides of the mirror box.

Adjust : Changing the thickness of W3.

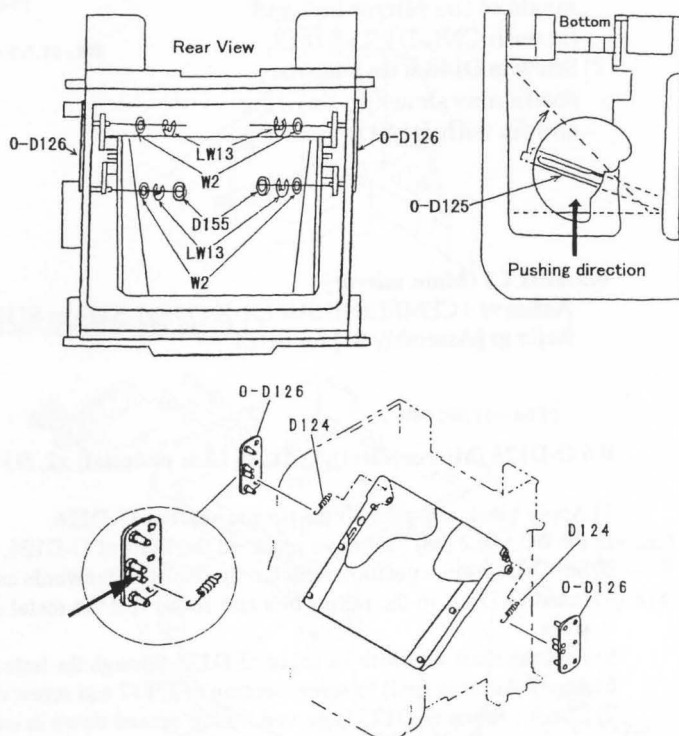


## 6.7 D124 (Mirror arm pedestal spring) x2, D155 (anti-reflection sheet E) x6

- 1) Hook D124 to bottom hook of D126. (Both sides)
- 2) Set up W2 (t= adj., black dye) on shaft of O-D126 x2. 4 places top and bottom, right and left.
- 3) Fix with LW13. 4 places top and bottom, right and left.
- 4) Affix D155 x6 onto LW13.
- 5) Attach D124 x2
- 6) Check : Operation of mirror sheet and horizontal looseness.

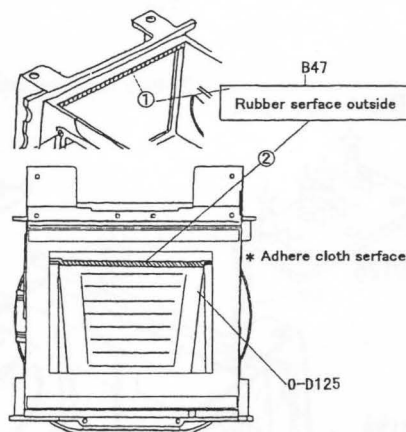
① Move lightly horizontally to the extent of looseness of mirror sheet. When moving up and down the mirror sheet should not come into contact with the sides of the mirror box.

② Turn the mirror box upside down. When the mirror sheet has been lifted half way up from the bottom, it should rise fully to the final position under the spring tension of D124.



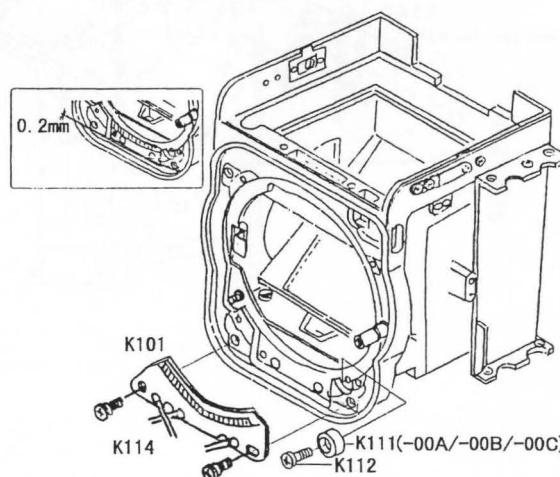
## 6.8 B47 (Light seal curtain)

- 1) Apply Origin Bond to the section ① of the Mirror box and the section ② of O-D125.
- 2) With the rubber surface of B47 on the outside, affix with the central symmetry of the Mirror box, and seal well with fingers.
3. Seal and affix well in the same way in the case of O-D125.



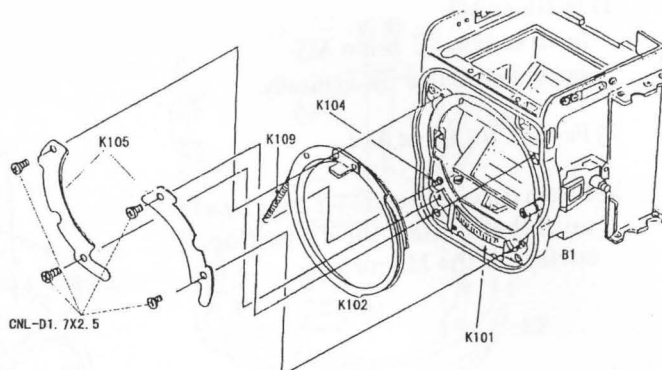
## 6.9 K111 (Slider roller), K112 (Slider roller shaft), K101 (resistor), K117 (resistor insulating tape)

- 1) Install K111-OOB on the Mirror box with K112.  
(K112-00A : Larger diameter, -00B : Smaller, standard uses)
- 2) Insert the lead wires (black, blue, brown) of K101 into hole on front of mirror box and set K101 into the Mirror box with 0.2mm clearance, and fix with K114 x2 from the left side of K101.



### 6.10 O-K102 (Diaphragm couple ring), K105 (Slider cover) x2

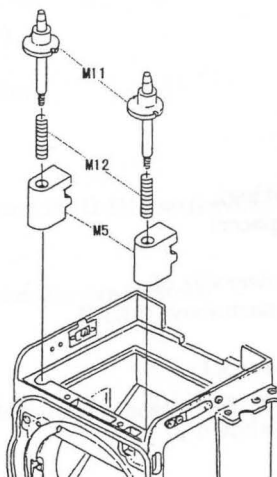
- 1) Wipe K101.
  - 2) Apply L-115 to the O-K102 contact side of the Mirror box.
  - 3) Fit the slider spring (K109) to the slider spring hook (K104) and install K102.
  - 4) Fix K105 x2 with CNL-D 1.7 x2.5 x4.
  - 5) Check : O-K102 should be rotated smoothly.
- Note : Break off the tip of the brush of O-K102 from the V notch when using new parts.



### 6.11 M5 (Focus screen retainer) x2, M11 (Viewfinder positioning pin) x2, M12 (Focus screen retainer spring) x2

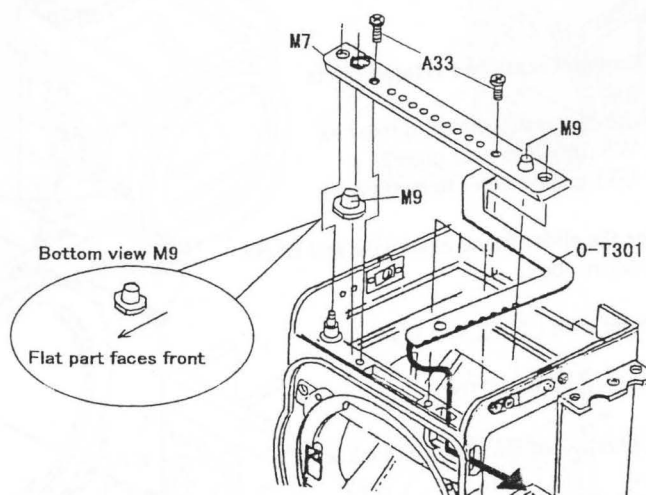
[Tools : 95901-K280 (Driver bit for 27340-M11)]

- 1) Attach to the Mirror box in the order M5, M12, M11 and fix with M11 by the tool.
- 2) Check : Lift up M5, and M5 should be return to the original position by the spring tension.



### 6.12 O-T301 (Viewfinder contact board), M9 (Penta regulation rubber A) x2, A33 (Retainer screw C)

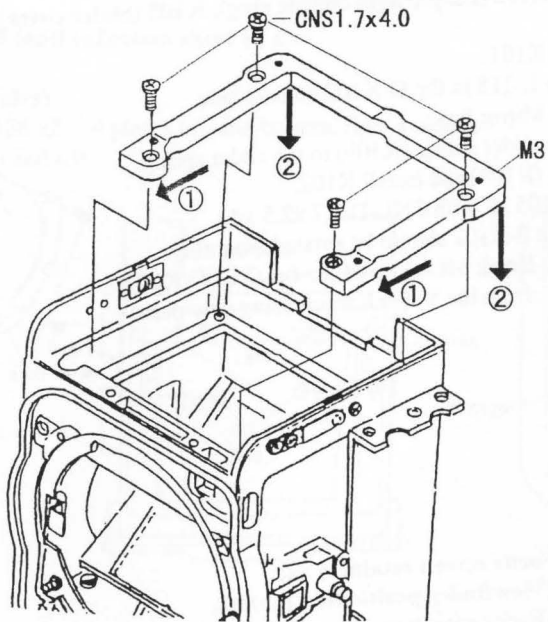
- 1) Pass the flex part of O-T301 through the hole on the Mirror box, and attach M9 x2 onto the Mirror box, and then fix with A33 x2.





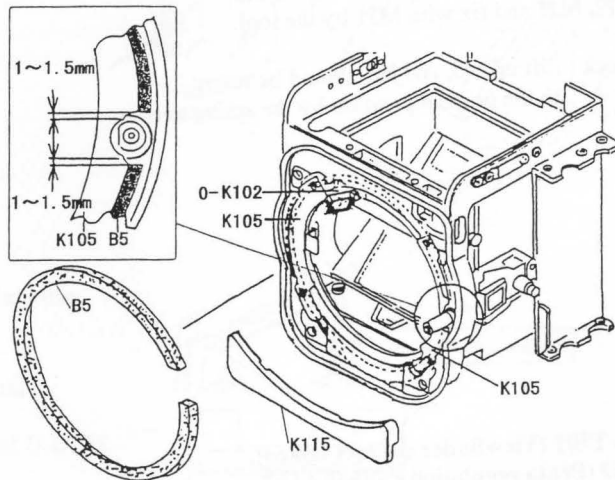
### 6.13 M3 (Focus screen adjusting plate)

- 1) Installing M3  
Insert section ① below M5  
and install section ② vertically.
- 2) Fasten CNS 1.7 x4.0 x4.
- 3) Fasten the set screws (ST-F 2.0 x2.0 x4)  
until they contact the die casting  
surface of the Mirror box.



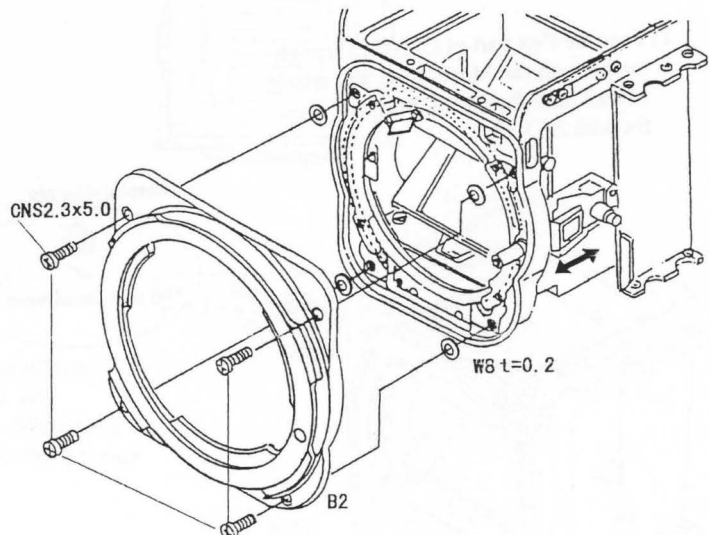
### 6.14 B5 (Light seal spring), K115 (Resistor spacer)

- 1) Move K115 to the lower side of  
the Mirror box and attach above 0-K101.
- 2) Attach B5 to K105 to avoid  
bumps or gaps between K105  
and mirror box as shown in  
the drawing.



### 6.15 B2 (Bayonet seat) and related parts

- 1) Align with center of hole of mirror box  
and set W8 ( $t=0.2$ ) in four places.  
(Apply G31 to B3. Refer to next page)
- 2) Dislodge the slider frame clockwise and fit B2  
into the Mirror box.
- 3) Screw tight with CNS 2.3 x5.0 x4.
- 4) Check operation of 0-K102.
- 5) Check operation of B33 (Mount lock lever)
- 6) Install B55, B56, B57 and B58  
(Bayonet seat covering A, B, C, D)

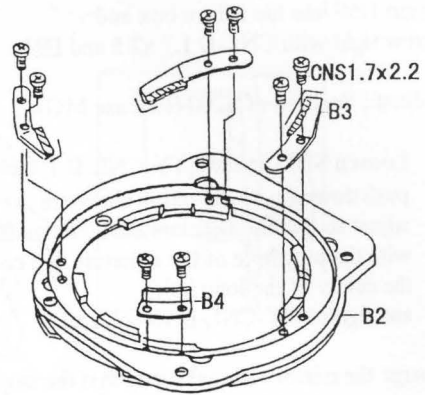


NB : When replacing the Mount, follow the procedures below

**B2 (Mount),**  
**B3 (Mount spring) x3,**  
**B4 (Mount stopper)**

\* Apply G31 generously to the diagonal line face and end face of B3 x3 as shown in the drawing.

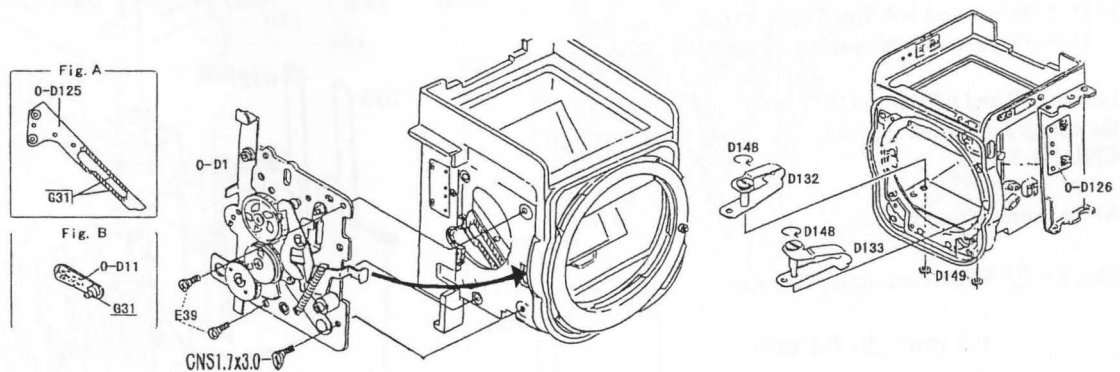
\* Apply Arontite (red) to the CNS 1.7 x2.2 x8 screw section, and tighten the screws.



#### 6.16 O-D1 (Mirror base plate), E93 (Shaft plate retainer screw)

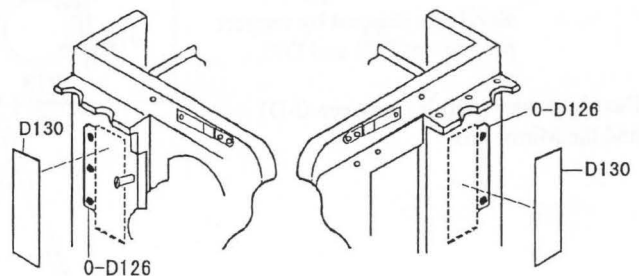
[ Tool : 95901-N035 (23400-B01-A) Mirror 45 degrees checker

- 1) Apply G31 as shown in Fig. A and Fig. B
- 2) Insert O-D1 into the body.  
 While putting the swing lever into the hole of the mirror box, insert the O-D11 section into the long groove of O-D125 and install O-D1.
- 3) Screw tight with E93 x2, CNS 1.7 x3.0.
- 4) Set the Mirror box at the charged state, screw in D148 x2, to create the gap between the mirror seat and the damper plate
- 5) Check : Parallelism of mirror.  
 Adjust : Move O-D126 at the mount lock pin side.
- 6) Tighten O-D126 installing screw x2, apply Three Bond 1401C to the screw head.
- 7) Check : Mirror 45 degrees check with the Jig.  
 Adjust : In/Out of D148 at the driving mech. side.  
 When adjustment done, in/out same amount of D148 at the mount lock pin side, and fix with D149.



#### 6.17 D130 (Light seal tape) x2

1. Affix D130 so as to block the gap between the Mirror box and O-D126.

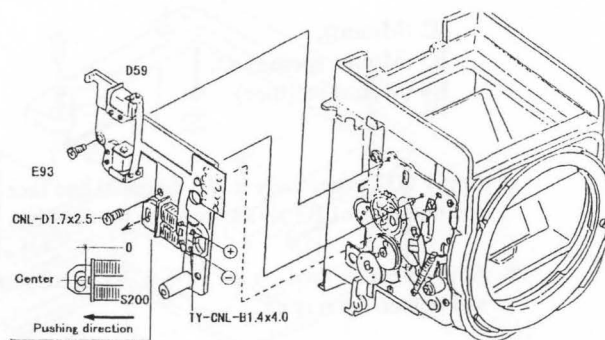


## 6.18 D59 (Magnet plate), D23 (Magnet plate retainer screw)

1) Insert D59 into the Mirror box and screw tight with CNL-D 1.7 x2.5 and E93.

2) Adjust : Position of S200 (Release MG).

Loosen S200 screws (TY-CNL-B 1.4 x4.0 x2), push down in ← direction shown in drawing, adjust so that the armature shaft comes into contact with the long hole of the armature and comes into the center of the long hole, and tighten TY-CNL-B 1.4 x4.0 x2.

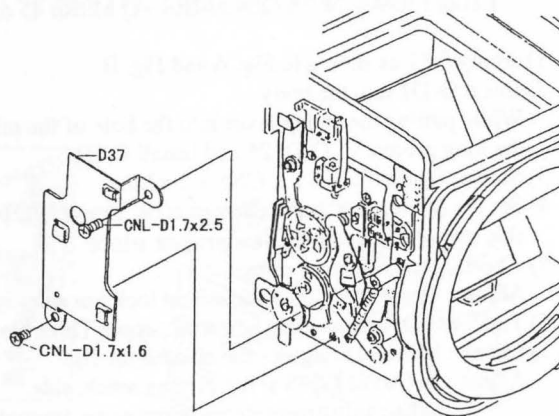


3) Charge the mirror and make sure that the stopper does not come loose. The stopper should come off when electricity(1.7V) is apply to magnet.

4) Apply Three Bond (1401C) to TY-CNL-B 1.4 x4.0 x2.

## 6.19 D37 (FPC install plate)

1) Install D37 on the mirror box and fix with CNL-D 1.7 x1.6 and CNL-D 1.7 x2.5.



## 6.20 D72 (Wind-end SW fixed contact), D73 (Wind-end SW moving contact)

1. Install D72 and D73 with O-D1 in the charged state and fix with CNL-D1.7 x2.5.

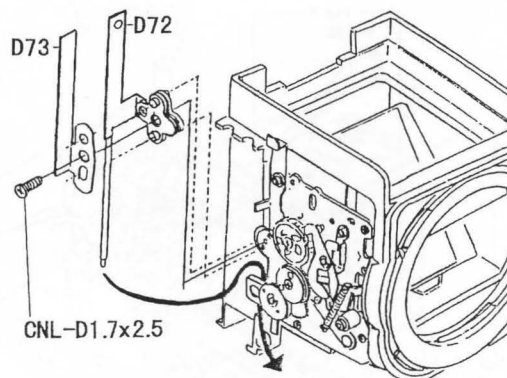
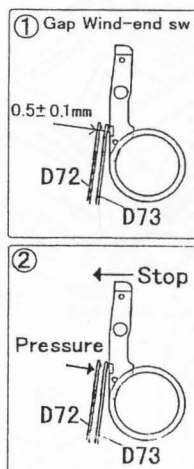
2. At the mirror charged state,

Check : ① Wind-completion SW gap.

**0.5 mm ± 0.1 mm**

: ②The mirror restoring lever should be stopped by contact pressure of D72 and D73.

3. Pass lead wire (purple) between O-D1 and the Mirror box.



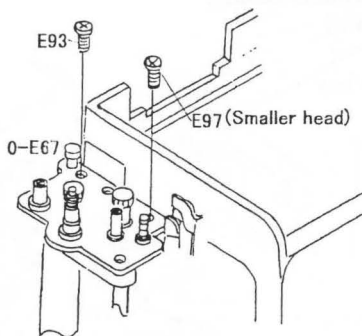
## 6.23 Installation of the 1<sup>st</sup> and 2<sup>nd</sup> shutter curtain (Assembly)

NB: Install the curtains with the mirror box is un-charged state.

See [ 8. Curtain assembly ] for details on assembly of the curtain.

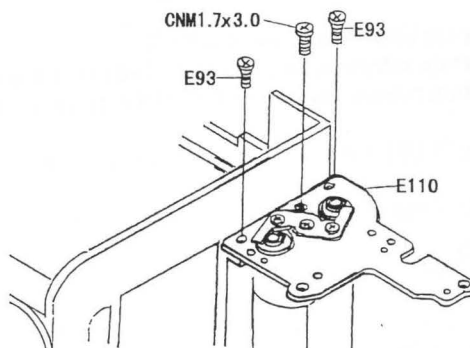
- 1) O-E67 (Shaft plate A),  
E93 (Shaft plate retainer screw),  
E97 (Shaft plate E retainer screw)

Attach O-E67 section to the mirror box and fix with E93 and E97.



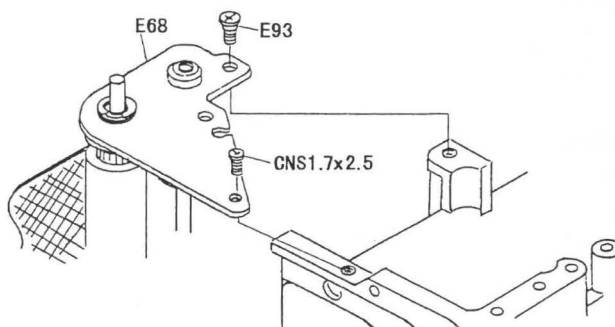
- 2) E110 (Curtain shaft pedestal),  
E93 (Shaft plate retainer screw) x2

Attach E110 to the mirror box and fix with E93 x2 and CNM 1.7 x3.0.



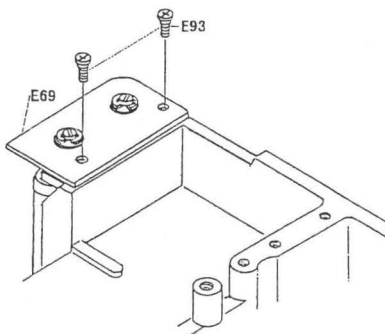
- 3) E68 (Shaft plate B),  
E93 (Shaft plate retainer screw)

Install E68 to the mirror box and fix with E93 and CNS 1.7 x2.5.



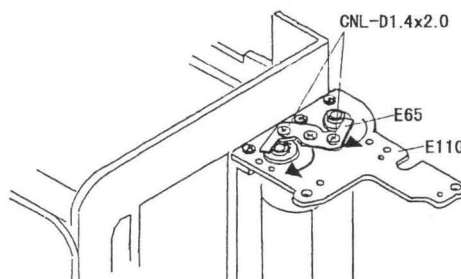
- 4) E69 (Shaft plate C),  
E93 (Shaft plate retainer screw) x2

Install E69 section to the mirror box and fix with E93 x2.



## 6.24 Tension of the curtains

- 1) Loosen CNL-D1.4x2.0 x2 of the curtain installing section, from zero tension of curtains, wind the both curtains 2 to 3 turns clockwise and tighten CNL-D 1.4 x2.0 x2 temporary.



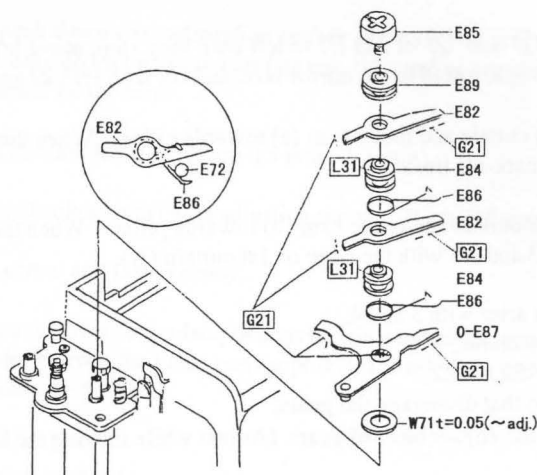
6.25 O-E87 (Mirror stopper release lever), E86 (Checker lever spring) x2, E84 (Checker lever color) x2, E82 (curtain checker lever) x2, E89 (M.E. restrict plate collar), E85 (Checker lever retainer screw)

1) Refer to the drawing, install the parts below.

Apply G21 (3 places) to O-E87,  
a drop of L-31 to E84 and  
G21 (2 places) to E82 x2.

Hook E86 (Spring) when installing E82.

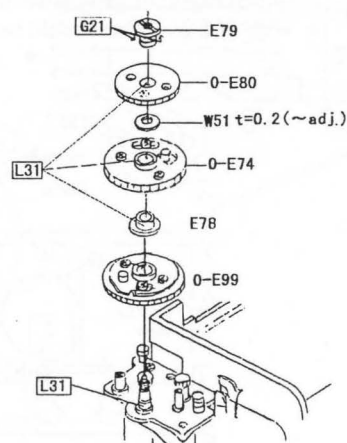
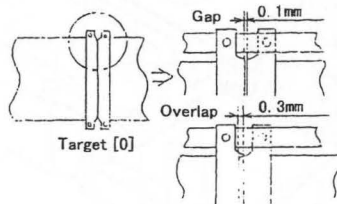
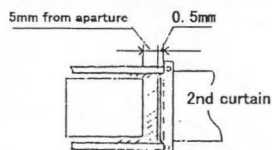
Fix with E85.



## 6.26 [Adjust] Alignment of the curtains

O-E74 (1st selector gear assy.), O-E80 (Curtain charge gear assy.),  
O-E99 (2nd selector gear assy.), E78 (Selector shaft collar)

- 1) Apply a drop of L-31 to O-E67 (second step of shaft), apply two drops to bore of O-E99, and install temporarily
- 2) Wind up 2nd curtain with gear E99 and latch. Adjust drive-in of 2nd curtain with eccentric dowel of O-E99. The two curtain drive-in standard lines should be clearly visible. If they are outside the range of adjustment, correct by aligning gear position.
- 3) After adjustment, fasten two screws of O-E99 and check drive-in position for a second time. Fasten the two screws with Three Bond 1401C. (Screw section and circumference of head)
- 4) Apply a drop of L-31 to E78 and O-E74, and install in the shaft of O-E67, and then install O-E74 temporarily. The curtain alignment gap should be no greater than 0.1 mm and overlapping no greater than 0.3 mm.
- 5) Wind up 1st curtain with gear O-E74 and latch. Adjust curtain alignment with eccentric dowel of O-E74.
- 6) After adjustment, fasten two screws of O-E74 and check curtain alignment for a second time. Apply Three Bond 1401C to two screws.
- 7) Install in order of W51 t=0.2 (adj.), O-E80.
- 8) Apply G21 to E79 shaft V groove (collar section) and fasten.
- 9) After finishing work, slowly run 1st and 2nd curtains and check drive-in amount again.



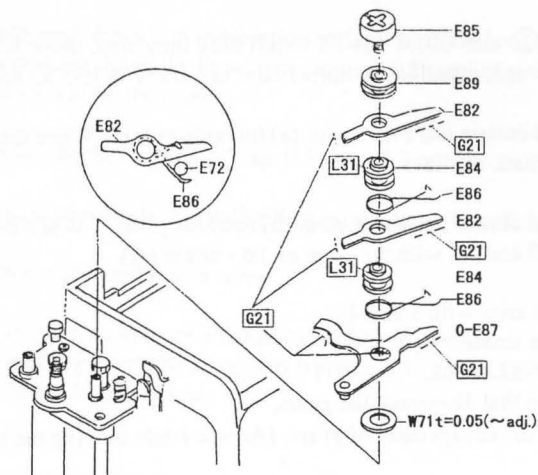
**6.25 O-E87 (Mirror stopper release lever), E86 (Checker lever spring) x2, E84 (Checker lever color) x2, E82 (curtain checker lever) x2, E89 (M.E. restrict plate collar), E85 (Checker lever retainer screw)**

1) Refer to the drawing, install the parts below.

Apply G21 (3 places) to O-E87,  
a drop of L-31 to E84 and  
G21 (2 places) to E82 x2.

Hook E86 (Spring) when installing E82.

Fix with E85.



**6.26 [Adjust] Alignment of the curtains**

**O-E74 (1st selector gear assy.), O-E80 (Curtain charge gear assy.),  
O-E99 (2nd selector gear assy.), E78 (Selector shaft collar)**

1) Apply a drop of L-31 to O-E67 (second step of shaft), apply two drops to bore of O-E99, and install temporarily

2) Wind up 2nd curtain with gear E99 and latch. Adjust drive-in of 2nd curtain with eccentric dowel of O-E99. The two curtain drive-in standard lines should be clearly visible. If they are outside the range of adjustment, correct by aligning gear position.

3) After adjustment, fasten two screws of O-E99 and check drive-in position for a second time. Fasten the two screws with Three Bond 1401C. (Screw section and circumference of head)

4) Apply a drop of L-31 to E78 and O-E74, and install in the shaft of O-E67, and then install O-E74 temporarily. The curtain alignment gap should be no greater than 0.1 mm and overlapping no greater than 0.3 mm.

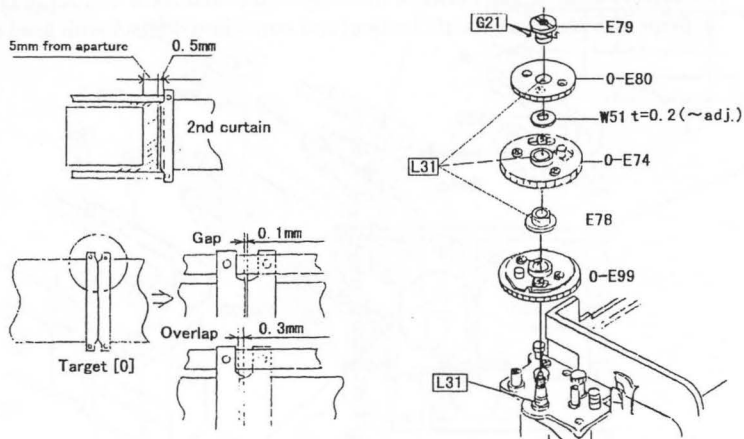
5) Wind up 1st curtain with gear O-E74 and latch. Adjust curtain alignment with eccentric dowel of O-E74.

6) After adjustment, fasten two screws of O-E74 and check curtain alignment for a second time. Apply Three Bond 1401C to two screws.

7) Install in order of W51 t=0.2 (adj.), O-E80.

8) Apply G21 to E79 shaft V groove (collar section) and fasten.

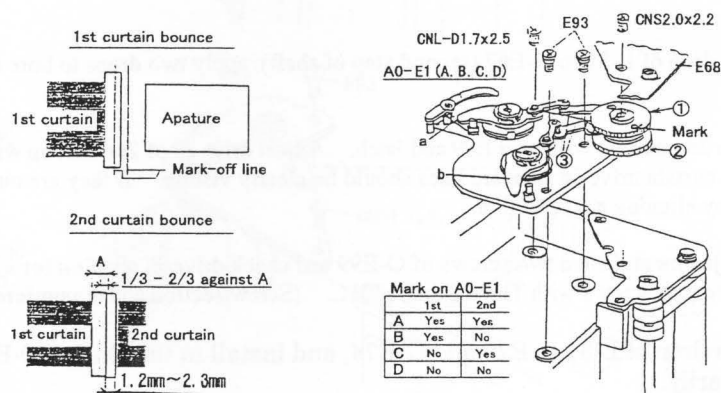
9) After finishing work, slowly run 1st and 2nd curtains and check drive-in amount again.





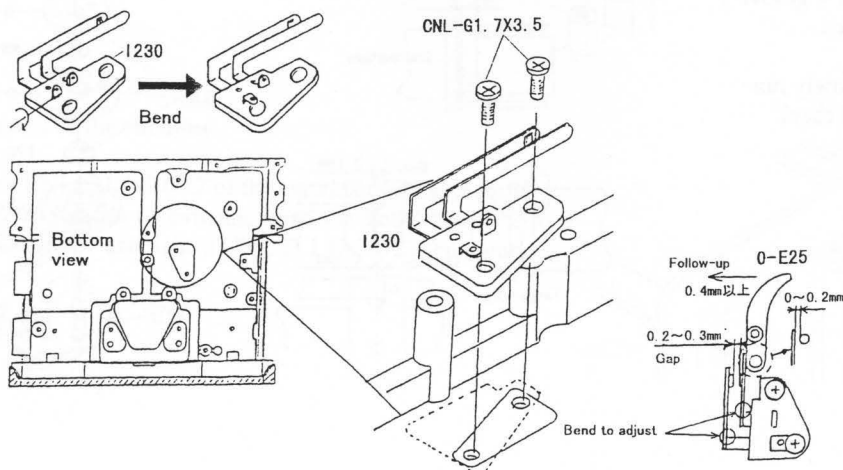
## 6.27 [Adjust] : Installing position of Damper mechanism block(AO-E1)

- 1) Put shutter in wound state.
- 2) Turn gear ① and ② of AO-E1 to left until they stop, move lever ③ inwards, return 1st curtain gear by 2 or 3 cogs, install in the mirror box, and fix with E93 x2 and CNS 2.0 x2.2.
- 3) Run the 1st curtain and move cam (a) towards pillar. When this is done, the edge of 1st curtain should come within the mark-off lines.
- 4) Run the 2nd curtain and move cam (b) towards pillar. When this is done, the edge of 2nd curtain should overlap between 1/3 and 2/3 with the edge of 1st curtain (A).
- 5) If problems arise with 3 and 4,  
Wind up the shutter,  
Remove CNS2.0 x2.2,  
Slide E68 so that disengage the gears,  
and change the engagement of gears. (Adjust while moving the lever ③ inward)
- Align 1st curtain with gear ①  
Align 2nd curtain with gear ②  
If adjustment is impossible, replace with an appropriate A0-E1.
- 6) After adjustment, wind up shutter curtain and tighten CNL-D 1.7 x2.5.



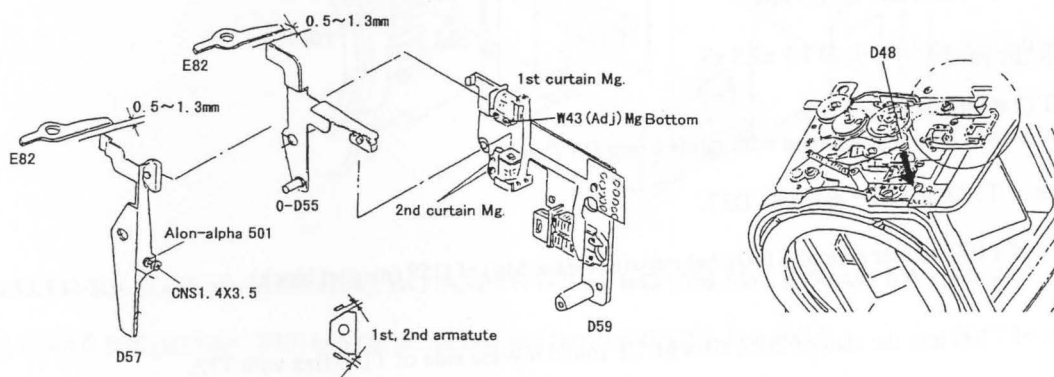
## 6.28 Attachment and adjustment of I230 (X SW)

1. Attach I230 to mirror box with CNL-G 1.7 x3.5 x2.  
(Attach in wound state. Adjust contact section of I230 as shown in drawing below.)
2. Activate O-E25 in curtain-released state and adjust follow-up quantity of moving contact.  
(Follow-up quantity: min. 0.4 mm)
3. Adjust extent of gap between moving contact and fixed contact in curtain-wound state. (Gap: 0.15 mm)
4. Wipe X SW. One should be bent and come into contact with head of screw.



## 6.29 ES magnet adjustment

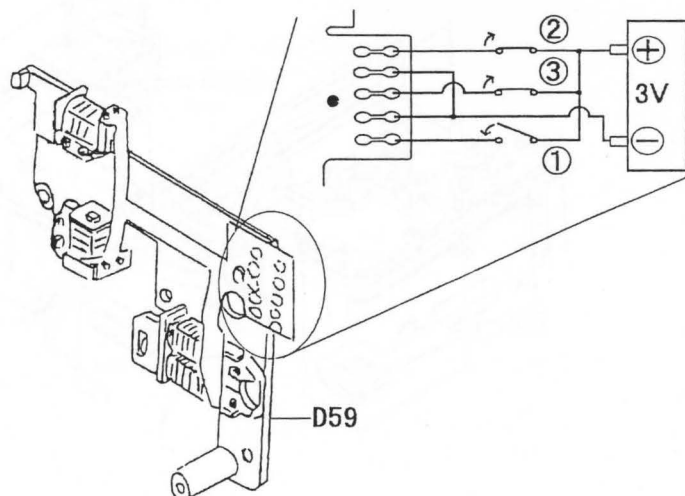
- 1) Put shutter curtain and mirror base plate (O-D1) in wound up state.
- 2) Loosen 1st curtain Mg installing screw, lightly push down core adsorption surface in parallel on armature adsorption surface and fasten screw. When pushing down the loose part (approx. 0.1 mm) of armature shaft, the gaps on the two shoulders of the armature should be the same.
- 3) Check gap between O-D57 and E82 (1st curtain checker lever). (Gap: 0.5 mm - 1.3 mm)
- 4) Adjust gap between O-D55 and E82 (2nd curtain checker lever) with adjusting screw. (Gap: 0.5 mm - 1.3 mm)
- 5) Apply Alon-alpha 501 (red) to root of adjusting screw and fasten screw.
- 6) Loosen 2nd curtain Mg installing screw, lightly push down core adsorption surface in parallel on armature adsorption surface and fasten screw. When pushing down the loose part (approx. 0.1 mm) of the armature shaft, the gaps on the two shoulders of the armature should be the same.
- 7) Check :
  - ① Apply the voltage (1.7V) to the magnet so that it adsorbs.
  - ② Set the wind up state, release the stopper of the mirror and rise-up the mirror.
  - ③ Push O-D57 lightly, and let it go slowly. The 1st curtain should be run.
  - ④ Push O-D55 lightly, and let it go slowly. The 2nd curtain should be run, and mirror should go down.
- 8) After completing adjustment, apply Three Bond 1401C to 1st and 2nd MG and installing screws x4.



## 6.30 Checking operation of mirror box block

[ Jigs and tools ] : Regulated voltage power source.

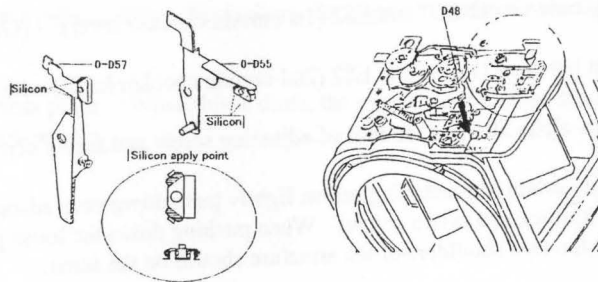
- 1) Wind up shutter curtain and mirror box.
- 2) Solder lead wires to illustrated places on T331 (shutter magnet relay P.C. board).
- 3) Check :
  - Mirror-up occurs after feeding to ①
  - 1st curtain runs after power flow is cut to ②
  - 2nd curtain runs after power flow is cut to ③
- 4) Check ①, ② and ③ again with mirror box placed in reverse position.  
(Take care to avoid short-circuiting.)



### 6.31 O-D55 (2nd curtain operation lever assy.), O-D57 (1st curtain lever assy.), silicon application

Silicon : 95901 S141 (Toshiba TSE 397)

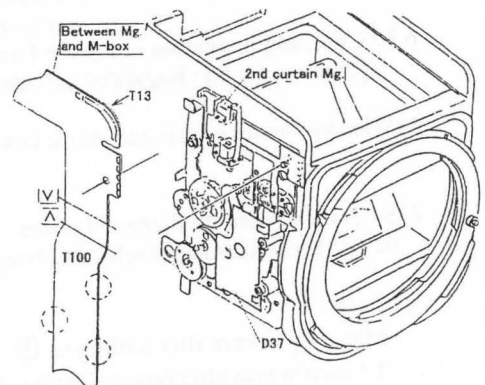
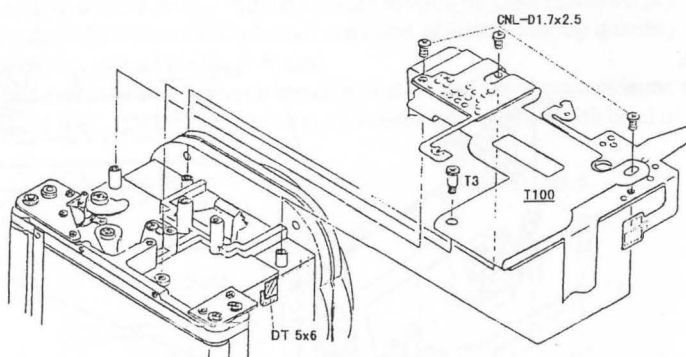
- 1) At the mirror and shutter are in wound state, apply 3V current to ②, ③ of the drawing on front page (6.30).
- 2) Unhook D48 and put mirror up.
- 3) Apply silicon to 4 places on armature parts of O-D55 and O-D57.
- 4) Leave undisturbed for 12 hours with current on and mirror up. Place O-D1 faces upwards. Silicon should not attach to any other places.



### 6.32 Installation of T100 (Main P. C. board)

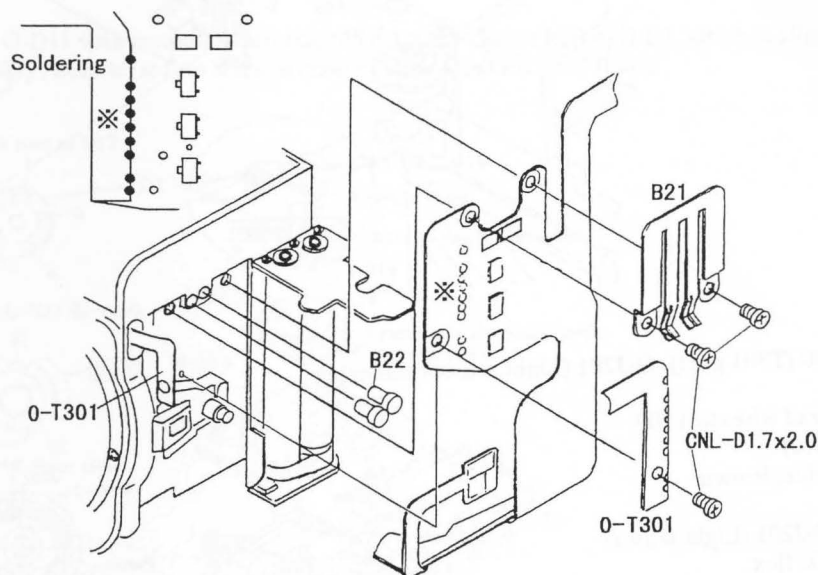
#### 6.32.1 T100 (Main P. C. board), T3 (FPC retainer screw), T13 (Tape C), DT 5x6

- 1) Bend T100 and insert into mirror box.
- 2) Fasten in the order T3, CNL-D 1.7 x2.5 x3.
- 3) Affix DT (5x6) to the mirror box.  
Affix AM switch land in alignment with guide using DT (5x6).
- 4) Insert flex of T100 on O-D1 side into D37.
- 5) Insert flex of T100 on rear side of S100 (2nd curtain release Mg) of D59 (magnet block).
- 6) Insert flex of T100 into the stud of D59, affix M-UP round reverse side of T100 flex with T13.
- 7) Solder 5 lands



### 6.32.2 B21 (Focus screen SW contact), B22 (Focus screen SW pin) x2

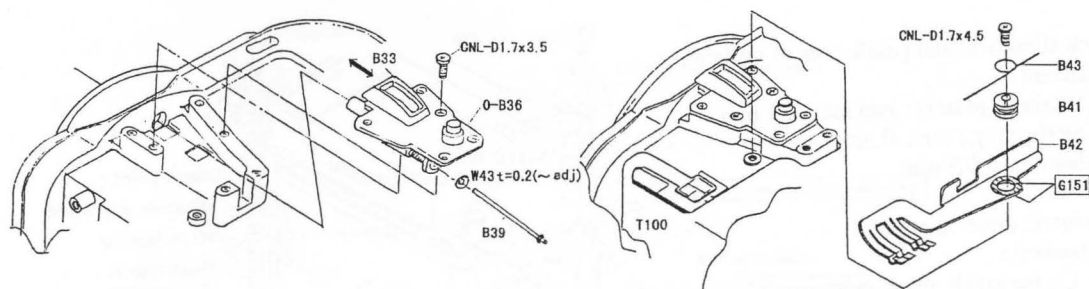
- 1) Bend T100 along fold from bottom surface of mirror box and install in side.
- 2) Wipe T100 lands and B21 contact with cleaning liquid.
- 3) Insert B22 x2 into body, mount B21 and fasten with CNL-D 1.7 x2.0 x2.
- 4) B21 should be off when B22 x2 is pushed from inside body.
- 5) Combine T301 flex with T100 and fasten with CNL-D 1.7 x2.0.
- 6) Solder 9 lands. (T00 – 0-T301)



### 6.32.3 O-B36 (Lock-pin guide assy.), B41 (AM SW collar), B42 (AM SW), B43 (AM SW spring)

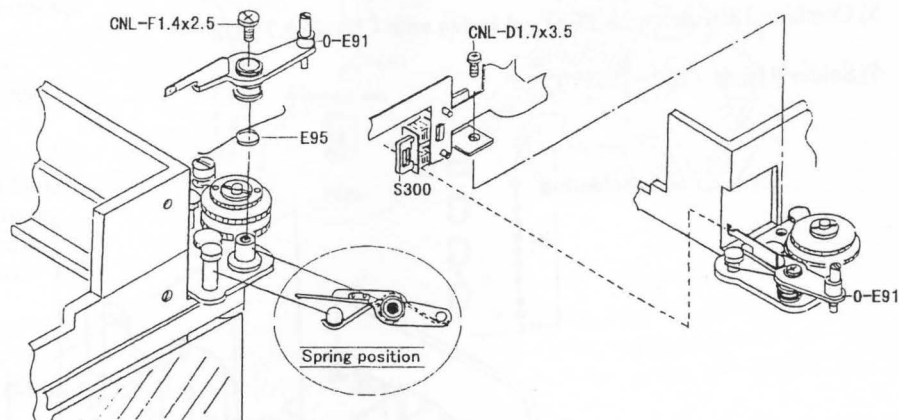
- 1) Insert 0-B36 (included B39) into the mirror box and fasten with CNL-D 1.7 x3.5.
- 2) Check the function of the Mount lock lever.
- 3) Wipe AM SW land of T100 and B42 contact, and install B42 and B41 into mirror box and fasten with CNL-D 1.7 x4.5.
- 4) Install B43 and attach spring to B42 and mirror box.

NB : Bend contact of B42 from V notch and remove. (When using new items)



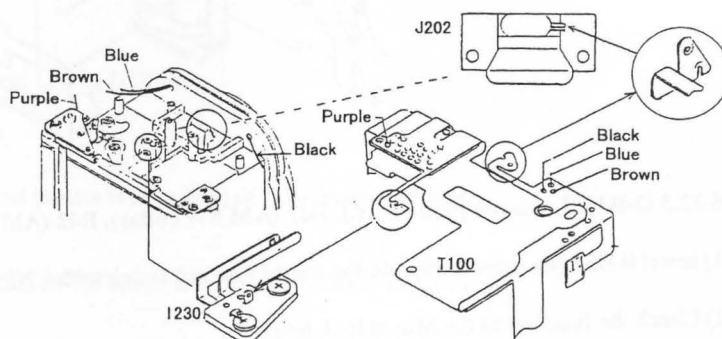
### 6.32.4 O-E91 (Duality prevention lever assy.), E95 (Duality prevention lever spring), T100 (S300 part)

- 1) Install E95, O-E91 on shaft of O-E67 and fasten with CNL-F 1.4 x2.5.
- 2) Attach E95 spring to E96 and O-E91 as shown in drawing.
- 3) Apply G-21 all round O-E67.
- 4) Insert tip of I-E91 into armature part of S300 and fasten S300 part of T100 to mirror box with CNL-D 1.7 x3.5.



### 6.32.5 T100 (T301 part), O-J201 (Light sensor) soldering

- 1) Solder lead wires to T100 from K101.  
Black, Blue, Brown
- 2) Solder O-J201 (Light sensor) and T100 flex.  
2 soldering lands
- 3) Solder I230 (X contact) and T100 flex.  
a soldering land
- 4) Treat lead wires (black, brown, blue) under T100 flex.



### 6.33 Check : Shutter curtain operation

[ Tools ] 95901-K165 (23400K-E80-A)

NB: Owing to large diameter of head of E79 (Selector shaft nut), inside of 23400K-E80-A should be shaved with a file.

- 1) Check alignment and parallelism of curtains.

Standard :

Curtain alignment : gap max. 0.1 mm

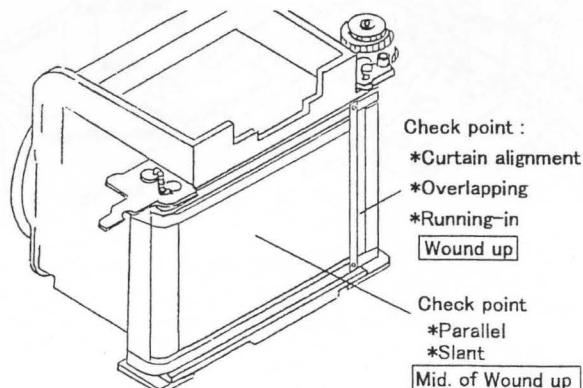
Overlapping : max. 0.3mm,

Slant: max. 0.3 mm

- 2) 2nd curtain drive-in amount

Standard :

On the inside mark-in line to two mark-in line.

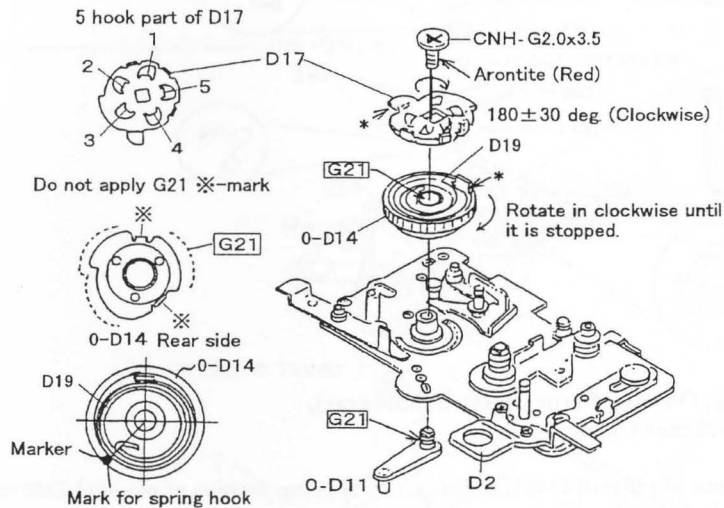


## 7. O-D1 (mirror base plate) assembly

### 7.1 O-D11 (Mirror actuator arm), O-D14 (Center gear assy.), D17 (Mirror operation plate), etc.

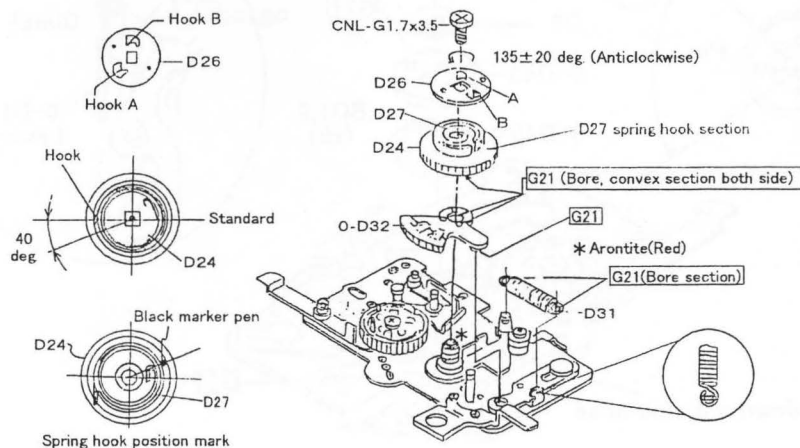
[Adhesive] : 95901 S120 (Arontite red 50cc)

- 1) Apply G21 to outer circumference of cam of O-D14, bore of O-D14, and shaft section of O-D11.
- 2) Install O-D14 into O-D1 shaft, turn to right, and bring up against stopper.
- 3) Attach hook of D17 to D19, turn to right by  $180 \pm 30$  degrees, latch D17 at place marked with an asterisk, and install above O-D14.  
Note: Use a black marker pen at D19 hook position of O-D14 to facilitate assembly.
- 4) Align hook section of O-D11 with protruding part side (45 degrees to lower left) of O-D1, attach in alignment with square hole of D17, apply Arontite (red) to screw section of CNL-G2.0 x3.5, and fasten.



### 7.2 D24 (Restoring gear), D26 (Mirror restoring spiral spring shaft), D31 (Swing lever spring), O-D32 (Diaphragm charge gear), etc.

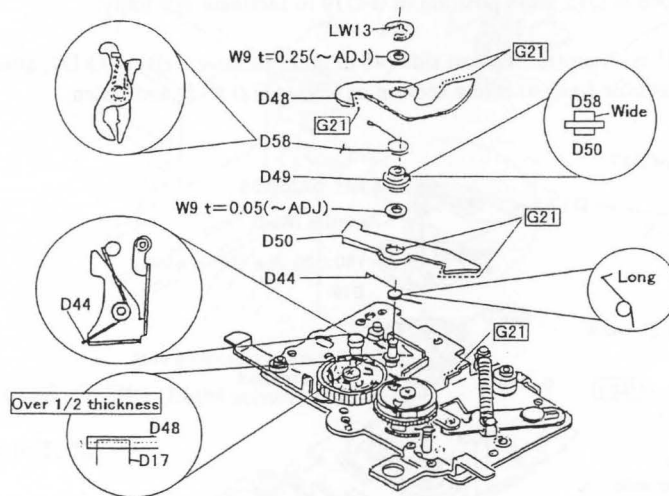
- 1) Apply G21 to bore of O-D32 and three places each on upper and lower protrusions (convex).
- 2) Insert O-D32 into pillar of O-D1 and align pin of O-D32 with O-D1 lever hole.
- 3) Apply G21 to bore section of D24 and insert D24 into O-D1 pillar as in drawing so that outer circumference side of D27 spring hook comes in a position within 40 degrees from standard.
- 4) Attach hook A or B of D26 to hook on bore of D27 spiral spring, turn anti-clockwise by  $135 \pm 20$  degrees, and install D26 in O-D1 square shaft.
- 5) Apply G21 to two places on bore of D31 hook part and latch on to upright parts of each as shown in drawing.





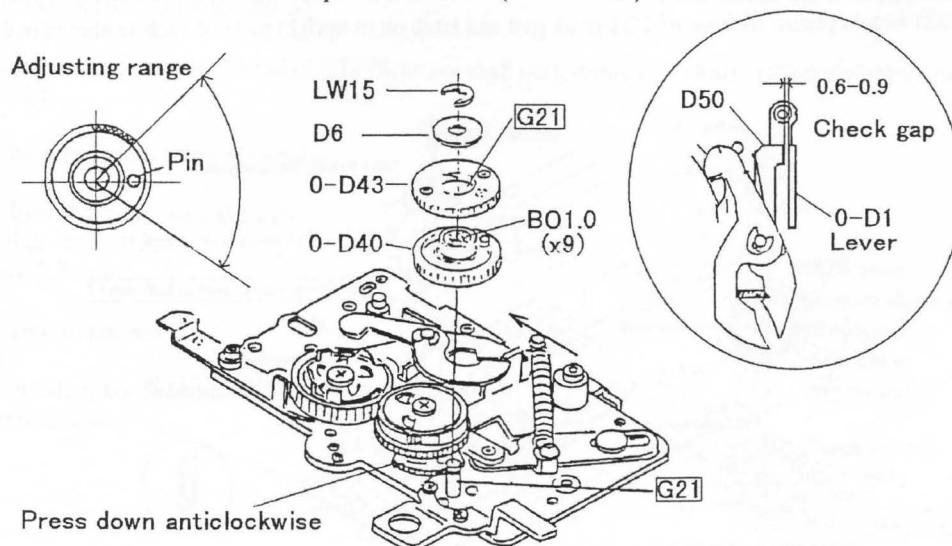
**7.3 D44 (Release spring), D48 (Mirror stopper hook), D49 (Diaphragm stopper hook collar), D50 (Diaphragm stopper hook), D58 (Joint spring), etc.**

- 1) Apply G21 to bore of D48 and D50 and to dotted line section as shown in drawing.
- 2) Attach D44 to pillar of O-D1 as shown in drawing and attach spring.
- 3) Insert D50, W9  $t=0.05$  (~adj.), D49, D58 to pillar of O-D1, and fasten with LW13.  
Vertical looseness of D48 and D50 should be less than 0.05 mm. Operation should occur smoothly.
- 5) Attach D58 spring to D50 and D48 respectively.  
Catch of D48 and D17 stoppers should be more than half the plate thickness.



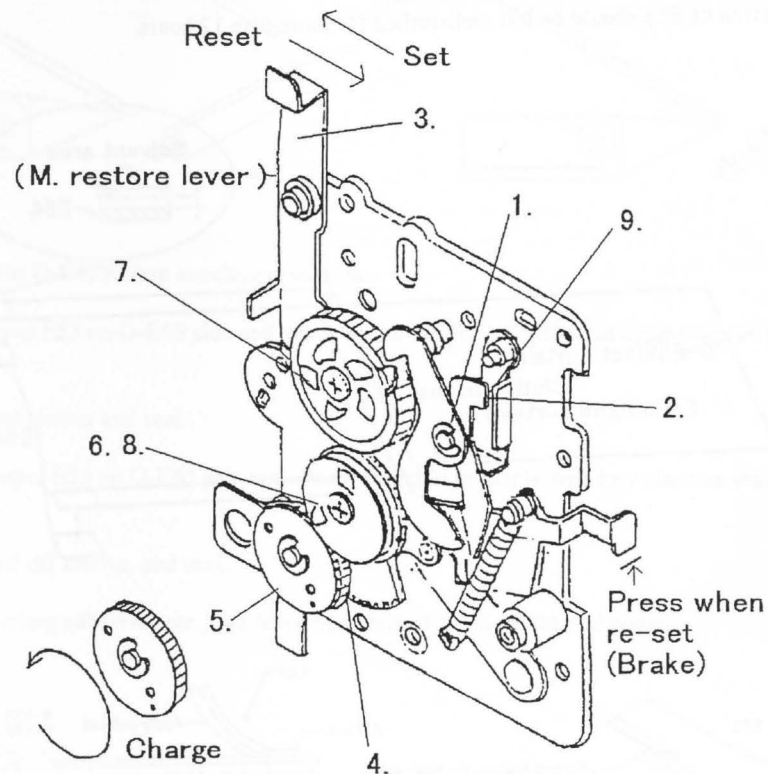
**7.4 D6 (Ball receptacle washer A), O-D40 (Mirror charge double gear), O-D43 (Mirror charge interval gear C), etc.**

- 1) Apply G21 to outer circumference of pillar of O-D1, and attach by aligning position of pin of O-D40 with gear held down clockwise as shown in drawing.
- 2) Rotate O-D40 slightly anticlockwise, slowly return O-D40 in a state with D48 and D50 stoppers removed, whereupon D48 and D50 should be firmly latched.
- 3) In the event that D48 and D50 are not firmly latched following check carried out in item 2 above, move attachment position of O-D40 vertically and look for position in which D48 and D50 catch firmly.
- 4) Apply G21 to bore of O-D43, attach D6 and fasten with LW15.
- 5) Check gap between O-D1 lever and D50 in pre-wind state. (0.6 - 0.9 mm)



### 7.5 O-D1 (Mirror base plate assy.) operational check

- 1) D48, D50 vertical looseness ----- max. 0.05
- 2) D48, D17 latching ----- max. 1/2 of plate thickness of D48
- 3) Mirror restoration lever operation -- Should operate smoothly.
- 4) Position of O-D40 gear ----- Slightly wind O-D43 anticlockwise, loosen catch, slowly return O-D43, hereupon catching should occur.
- 5) Winding of O-D43 ----- There should be no winding stiffness or hang-up.  
If the stopper is removed, readjust O-D40.
- 6) Position of D24 hook ----- Should not come into contact with D43 during winding.
- 7) Position of D17 hook ----- Check in black marker pen position and spiral spring stop position after winding.
- 8) Position of D26 hook ----- Check in black marker pen position and spiral spring stop position after winding.
- 9) D50 gap ----- 0.6 - 0.9 mm

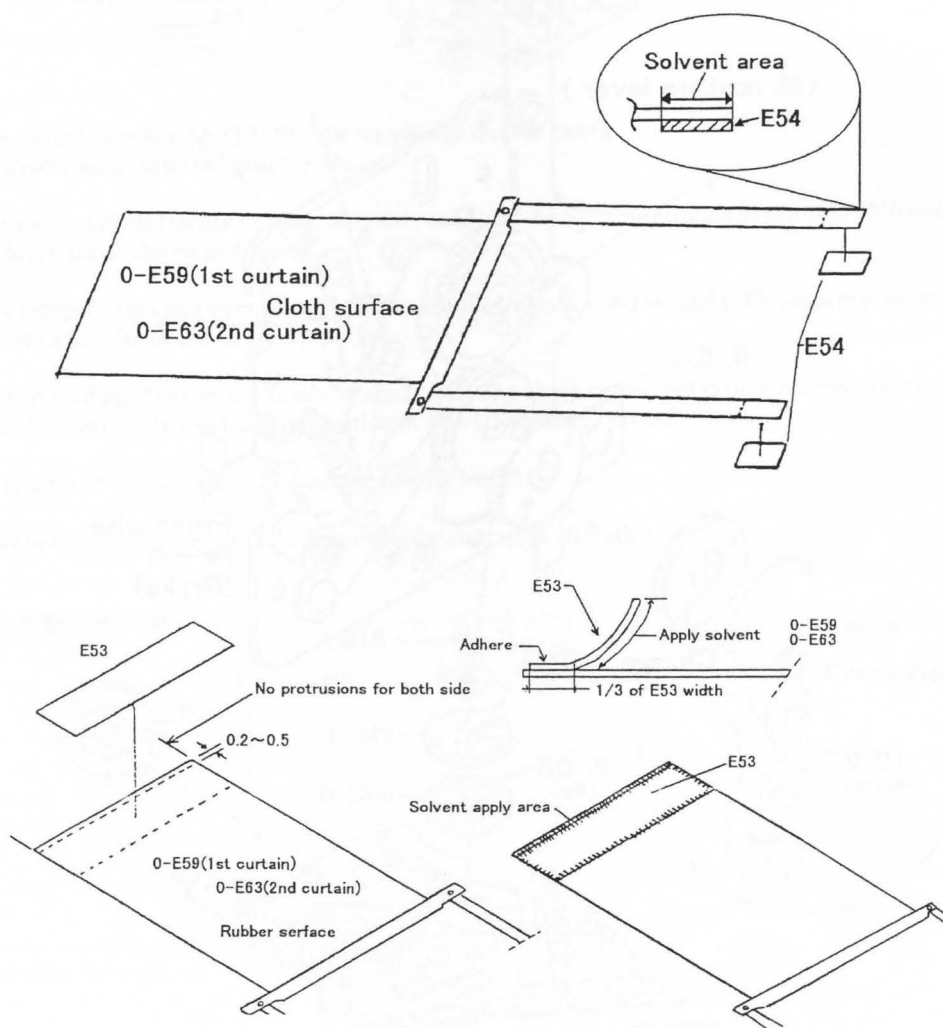


## 8. Assembling curtains

(Following explanation is concerned with assembly of the shutter curtain block.)

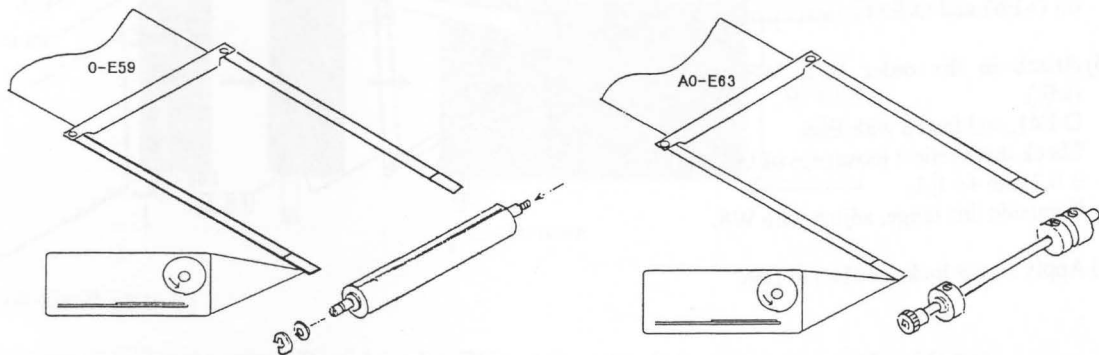
### 8.1 E53 (Curtain adhesive tape) x2, E54 (Ribbon adhesive tape) x2, O-E59 (2nd shutter curtain), O-E63 (2nd shutter curtain)

- 1) With fabric surface of O-E59 and O-E63 upwards, mount in alignment with E54 in two places at both ends of ribbon.
- 2) Apply solvent from above ribbon, lightly press from above ribbon and adhere with E54.
- 3) With adhesive surface of E53 downwards, create a gap of 0.2 - 0.5 mm on rubber surface of O-E59 and O-E63 and combine.
- 4) Apply solvent evenly over one third from above E53 (gap between tip surfaces 0.2 - 0.5 mm), and lightly press.
- 5) Apply solvent evenly on E53 from gap on un-bonded part, and lightly press.
- 6) After bonding E53, apply solvent evenly from four directions (vertical and horizontal) from above backing paper of E53.
- 7) Get rid of any protrusions of the adhesive.
- 8) Leave affixed section of E54 for more than 4 hours.  
The affixed section of E53 should be left undisturbed for more than 12 hours.

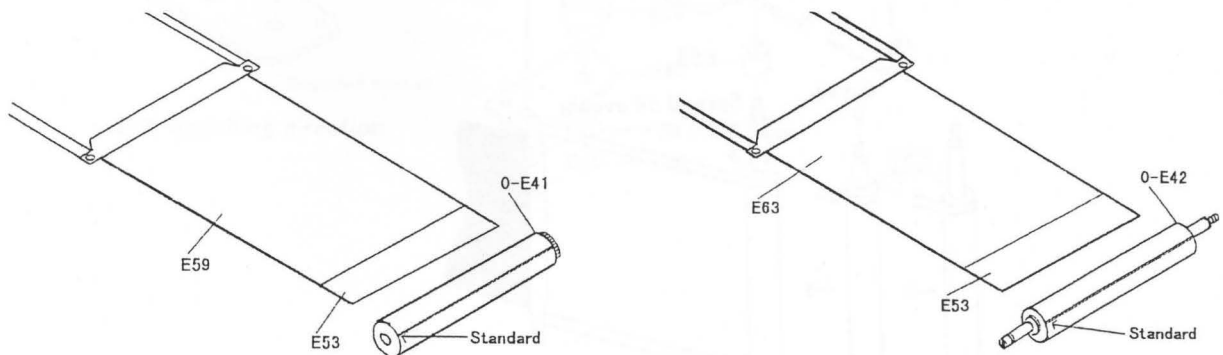


**8.2 O-E41 (Curtain pipe), O-E42 (1st curtain pipe), O-E43 (2nd curtain pipe), E48 (1st curtain shaft A), O-E49 (1st curtain shaft B), etc.**

- 1) Remove any oil from ribbon attachment section of O-E43.
- 2) Peel off backing paper E54 on O-E59 and attach ribbons with low place on drum ramp section of O-E43 as standard.
- 3) Rotate O-E43, wind off ribbon, and seal.
- 4) Provisionally attach E48 and O-E49 to O-E35 and remove any oil from E48 attachment section and O-E49 attachment section.
- 5) Peel off backing paper E54 on O-E63 side and attach ribbons with low place on drum ramp section of O-E49 as standard.
- 6) Rotate O-E35, wind off ribbon, and seal.
- 7) Remove any protruding adhesive, etc., and leave undisturbed for more than 12 hours.

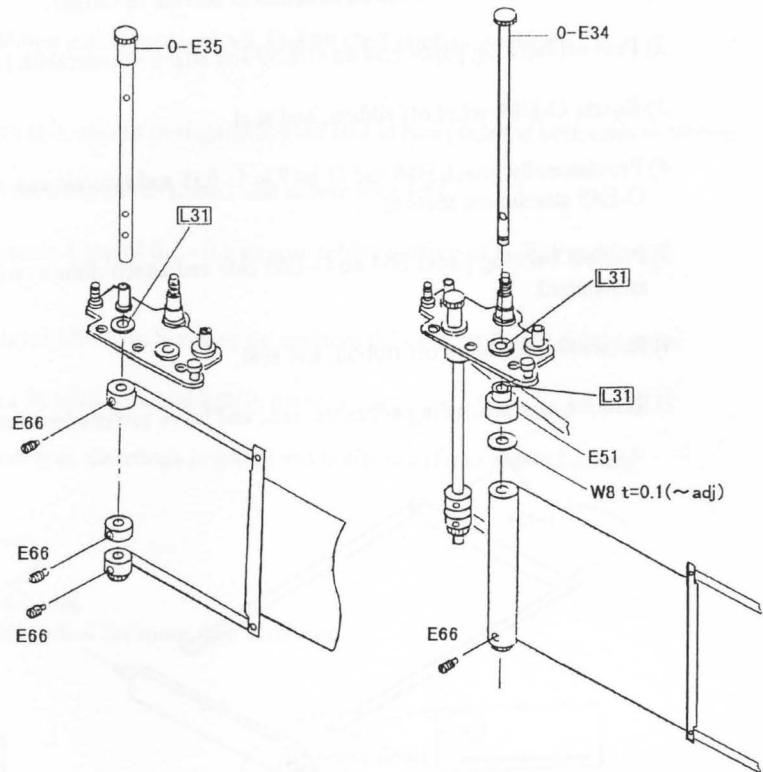


- 8) Remove any oil from O-E41 ribbon attachment section.
- 9) Remove peeling paper E53 on O-E59 side and attach shutter with a low place on drum ramp section of O-E41 as standard.
- 10) Rotate O-E41, wind shutter and seal.
- 11) Remove peeling paper E53 on O-E63 side and attach shutter in principle with low place on ramp section of O-E42 as standard.
- 12) Rotate O-E42, wind off ribbon, and seal.
- 13) Remove any protruding adhesive, etc., and leave undisturbed for more than 12 hours.



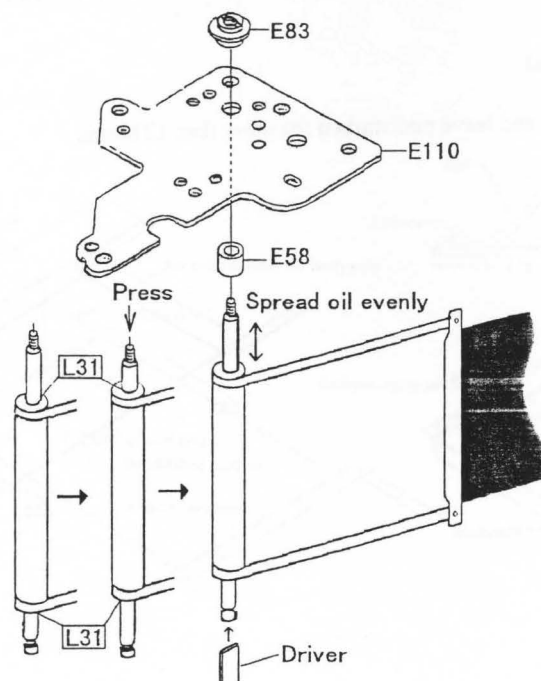
**8.3 O-E34 (2nd curtain pinion shaft), O-E35 (1st curtain pinion shaft), E51 (Curtain roller B), E66 (Curtain pipe retainer screw), O-E67 (Shaft plate A)**

- 1) Remove temporarily assembled E48, E52 and O-E49 from O-E35.
- 2) Insert O-E35 in O-E67 and apply appropriate quantity of L31 oil to O-E67 and O-E35 contact parts.
- 3) Attach E48, E52 and O-E49 to O-E35, fasten with E66 x3, and check for vertical looseness in O-E35.
- 4) Apply screw lock(1401C) to E66 x3.
- 5) Insert O-E34 into O-E67 and apply appropriate quantity of L31 oil from two vertical places on O-E67 and O-E34 contact parts.
- 6) Attach in the order B51, W8  $t=0.1$  (adj.) O-E41, and fasten with E66. Check that vertical looseness of O-E34 is  $0.2 \text{ mm} \pm 0.1$ . If outside this range, adjust with W8.
- 7) Apply screw lock (1401C) to E66.



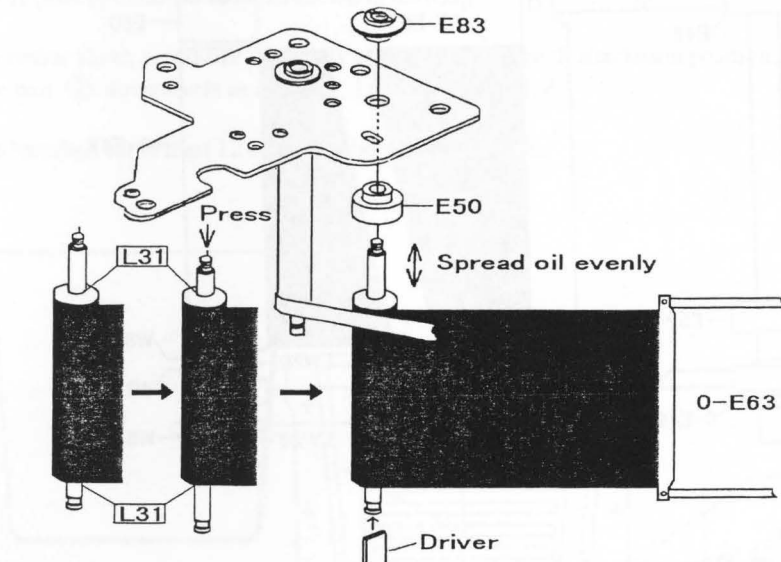
**8.4 O-E43 (2nd curtain pipe), E58 (2nd spring shaft collar), E83 (Curtain shaft wheel), E110 (Curtain shaft pedestal)**

- 1) Apply appropriate quantity of L31 oil to shaft section of O-E43, push down shaft and apply appropriate quantity of L31 oil to shaft section (inside lock washer). Move shaft section up and down and spread L31.
- 2) Insert E58 into O-E43 shaft section, hold with screwdriver and attach E83.



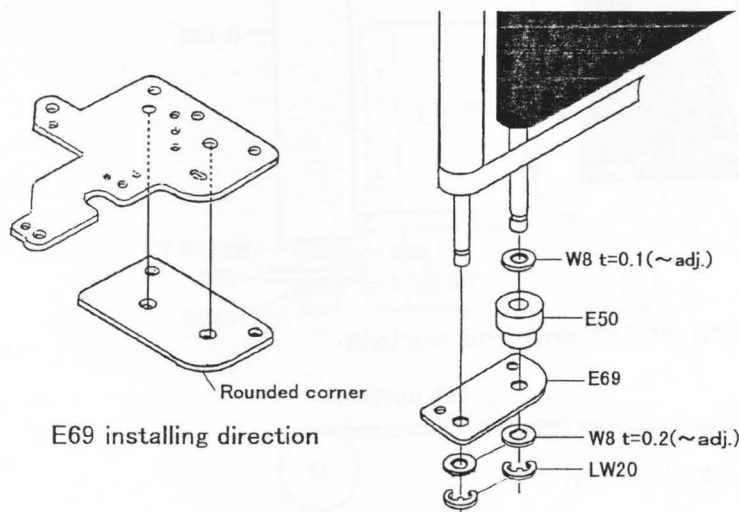
### 8.5 O-E42 (1st curtain pipe), E50 (Curtain roller A), E83 (Curtain shaft wheel), E110 (Curtain shaft pedestal)

- 1) Apply appropriate quantity of L31 oil to shaft section of O-E42, push down shaft and apply appropriate quantity of L31 oil. Move shaft section up and down and spread L31.
- 2) Insert F58 into O-E42 shaft section and attach to E110. Fix with screwdriver and attach E83.



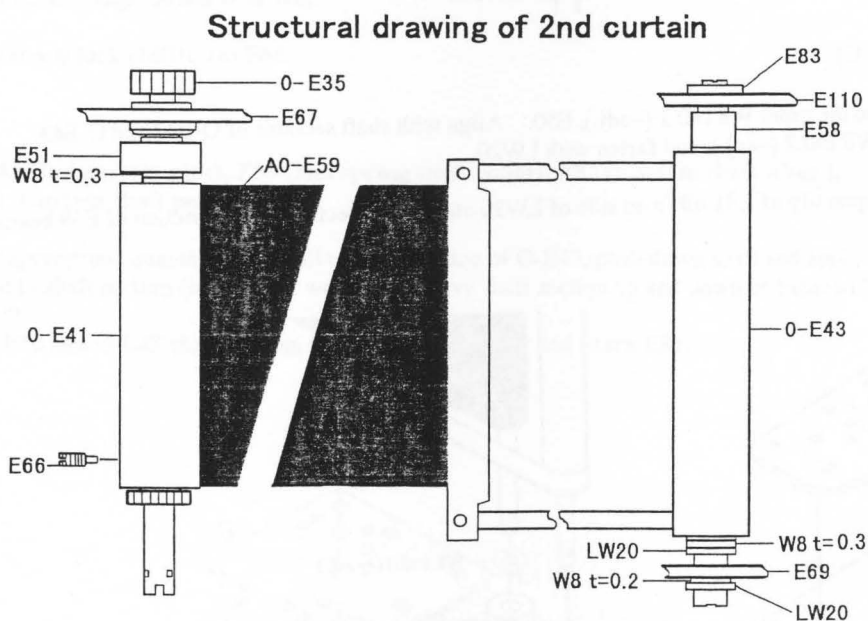
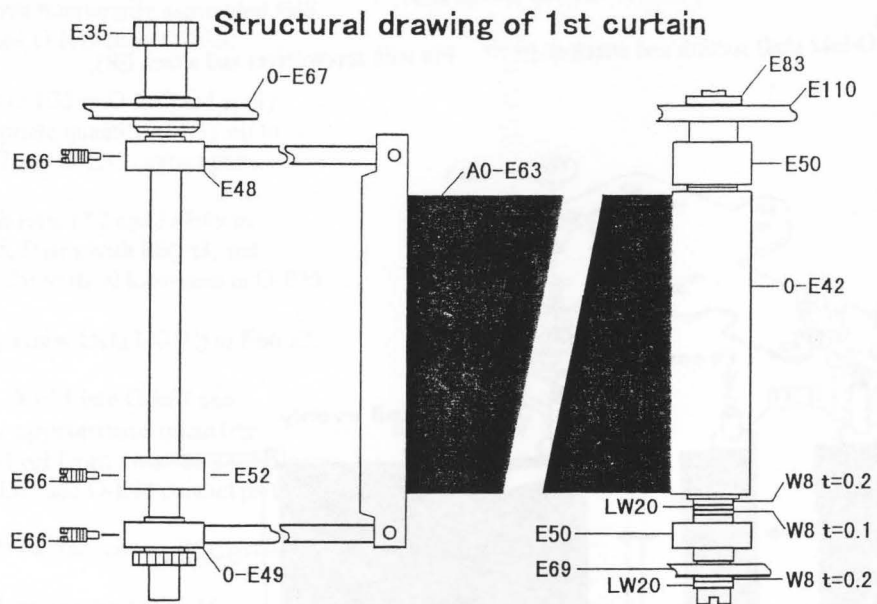
### 8.6 E69 (Shaft plate C)

- 1) Insert into O-E42 in the order W8 t=0.1 (~adj.), E50. Align with shaft sections of O-E42 and O-E43, attach E69, insert W8 t=0.2 (~adj.), and fasten with LW20.
2. Apply appropriate quantity of L31 oil from side of LW20 attachment section to hole section of E69 bearing.

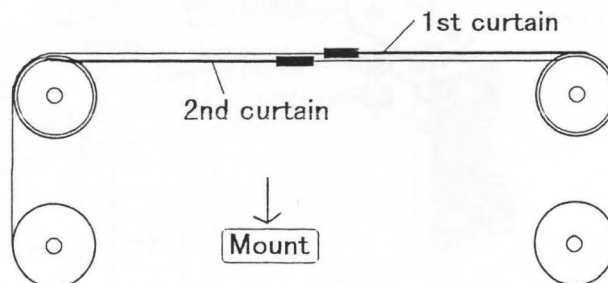




## 8.7 Structural drawings of 1st and 2nd curtains



**Position of 1st and 2nd curtain**

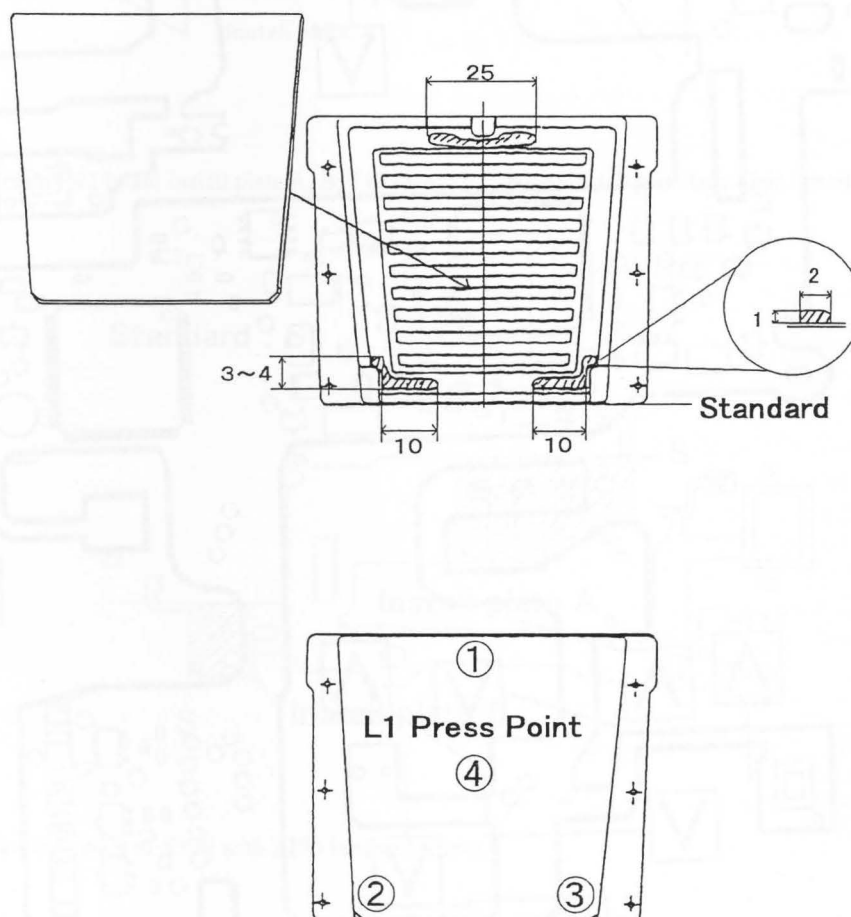


## 9. L1 (Main mirror) attachment

[ Adhesive ] : 95901 S114 Cemedine Super X 8008 B (black)

### 9.1

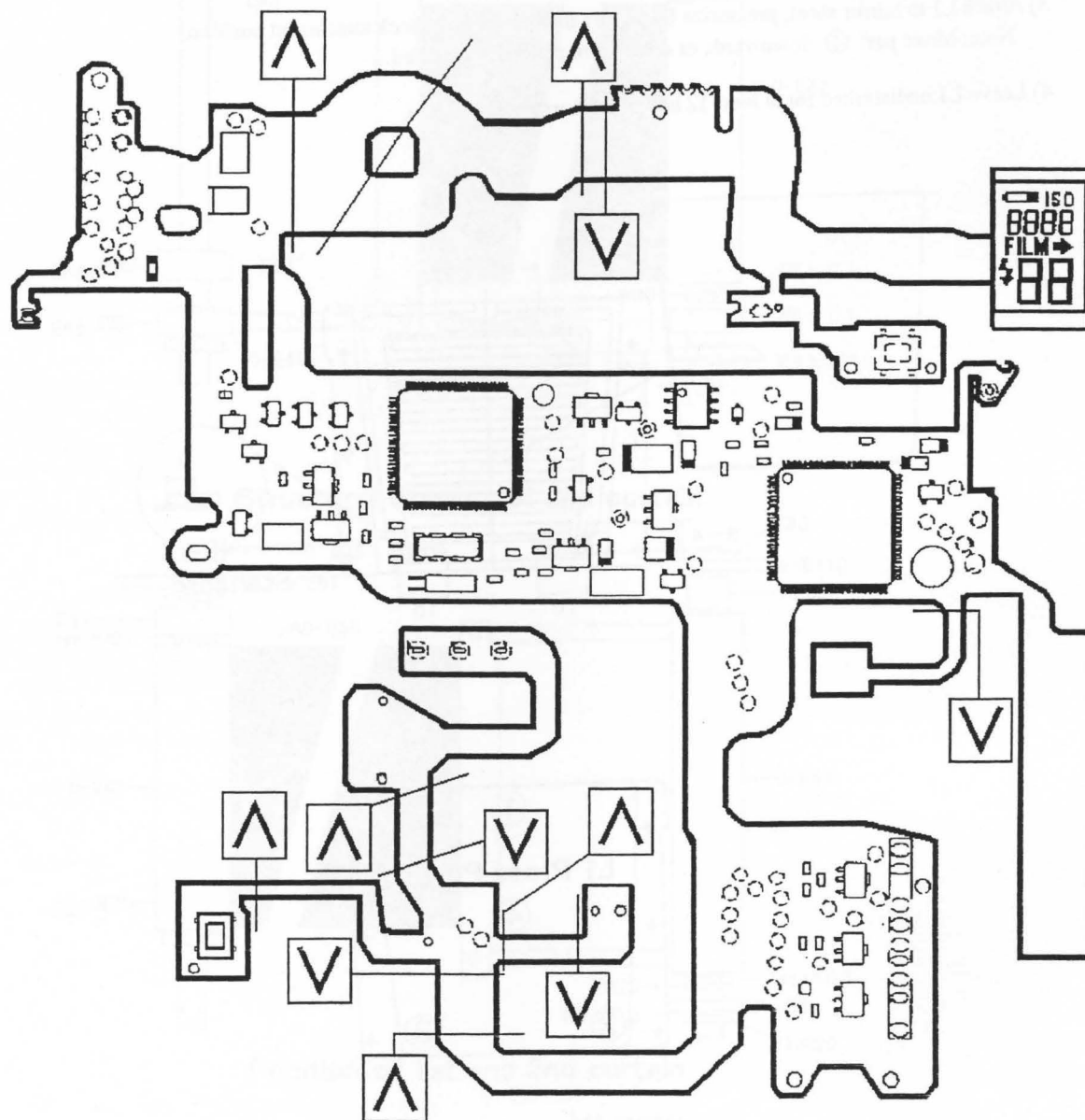
- 1) Remove any dust or dirt from adhesive surfaces of L1 and mirror sheet.
- 2) Apply Super X (black) to mirror sheet as shown in drawing.
- 3) Attach L1 to mirror sheet, pressurize L1 lightly in 4 places and check attachment position.  
Note: Move part ④ downwards as downward pressure is applied.
- 4) Leave L1 undisturbed for at least 12 hours in a horizontal position.



## 10. Folding of T100 (main P.C. board), etc.

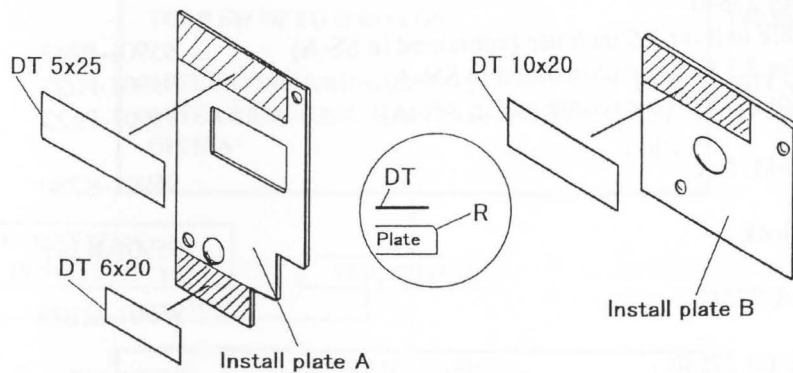
(The following explanation is concerned with operations performed when exchanging T100.)

### 10.1 Fold T100 in a V shape and an inverted V shape.



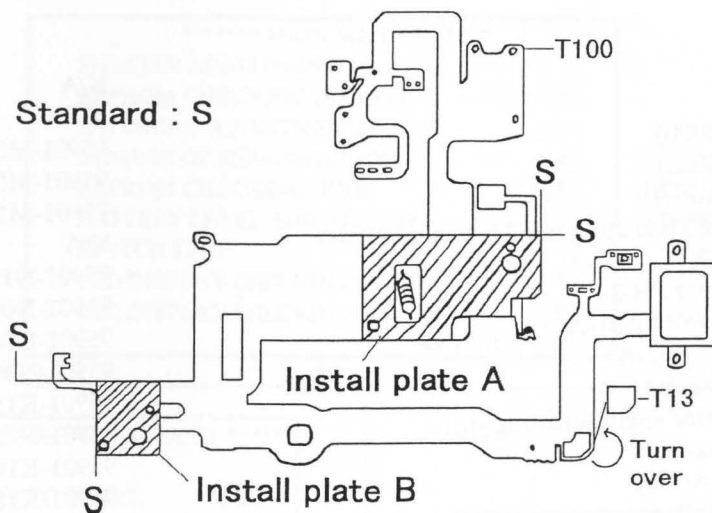
## 10.2

- 1) Attach DT(5 x25) and DT(6 x20) in specified positions on main P.C. board install plate A.
- 2) Attach DT(10 x20) in specified positions on main P.C. board install plate B.



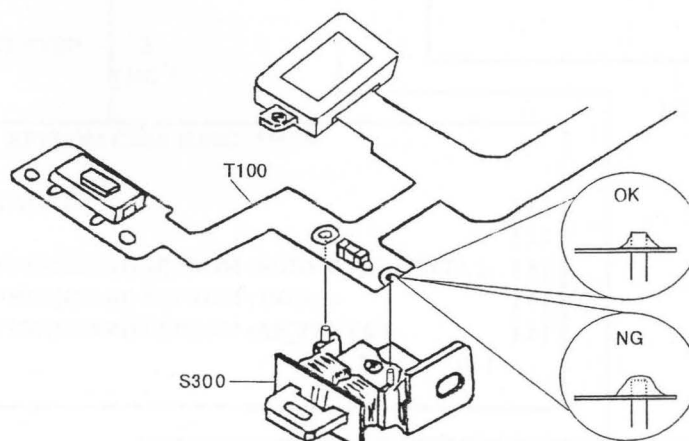
## 10.3

- 1) Attach main P.C. board install plate A, B, T13 (Main P.C. board install plate tape C) in specified positions.



## 10.4

- 1) Align two terminals of S300 with T100 land and solder.



## LIST OF JIGS, TOOLS AND TESTING EQUIPMENT FOR 27340

### \* Used exclusively by 27340

### Order no.

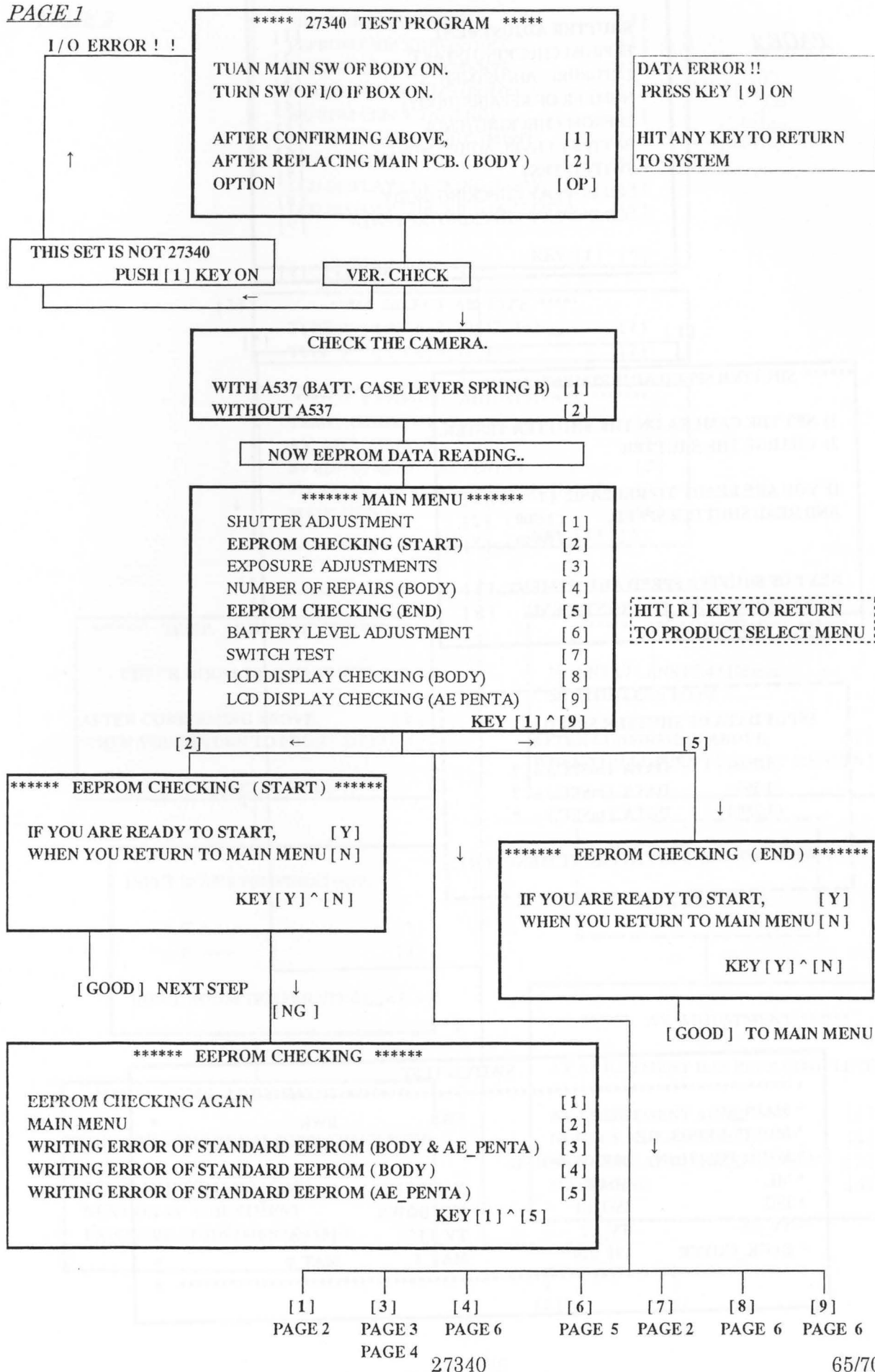
|   |            |
|---|------------|
| 1. Program software for 27340                           |            |
| AT-compatible unit for 3.5 inch use (contained in SS-A) | 95901-P243 |
| PC 98 type for 3.5 inch use (contained in SN-A)         | 95901-P023 |
| PC 98 type for 5.0 inch use (contained in AN-A)         | 95901-P123 |
| 2. Driver bit for 27340-M11-A                           | 95901-K280 |
| 3. Check jig for C30 block                              | 95901-K281 |
| 4. Camera adaptor CAA-27340                             | 95901-M129 |
| 5. 67 II TTL Back plate for 27340                       | 95901-J131 |
| 6. Silicon rubber TSE 397                               | 95901-S141 |

### \* Others

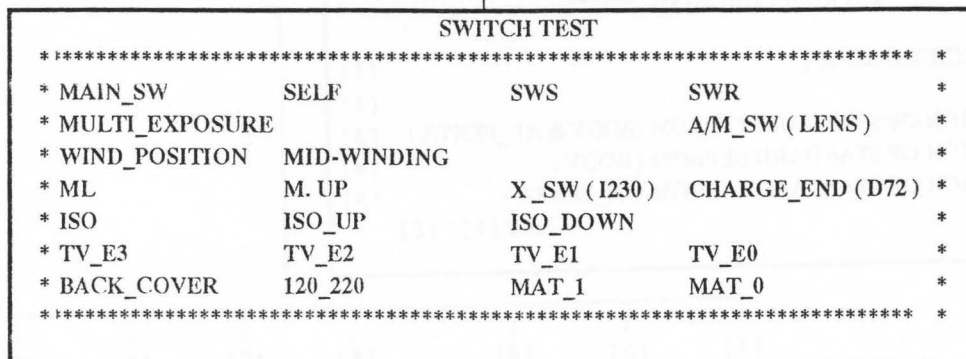
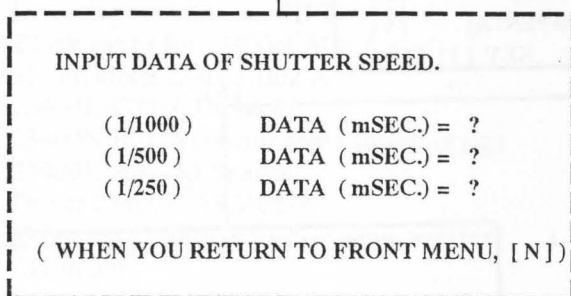
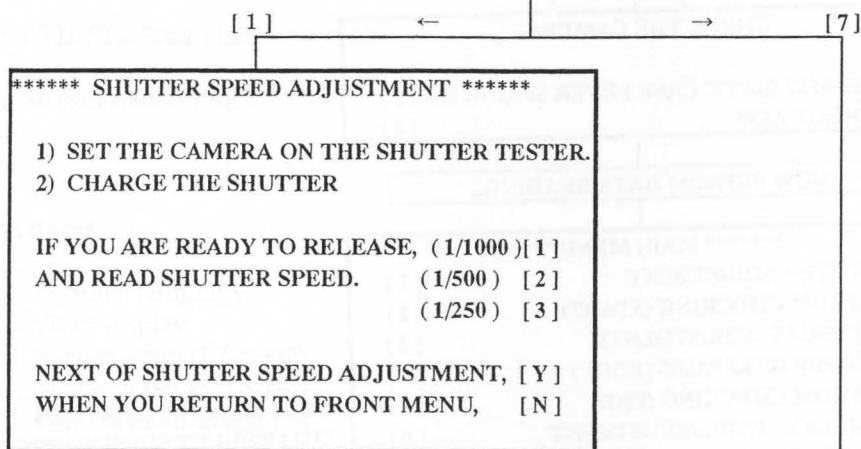
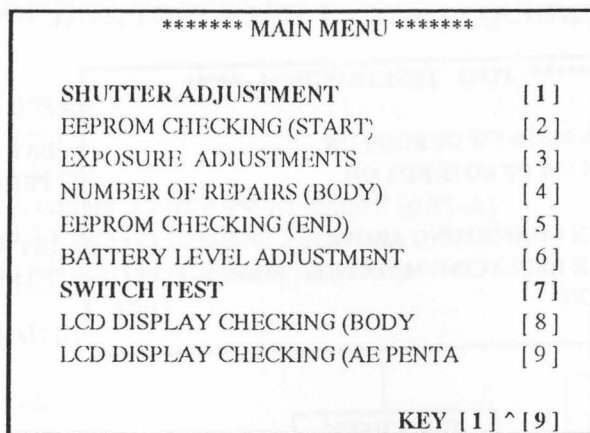
|  |               |
|--|---------------|
| 1. Personal computer                                   | N/A           |
| 2. Color display                                       | N/A           |
| 3. Shutter tester (EF-8000)                            | 95901-M049-01 |
| Shutter tester (EF-5000)                               | 95901-M003-01 |
| 4. Camera multi-adaptor-A                              | 95901-M127    |
| 5. Standard lens for AE (Use 105mm/F2.8 standard lens) | N/A           |
| 6. Focus master lens 67                                | 95901-N19     |
| 7. Dial gauge comparator PH-2                          | 95901-N001    |
| 8. Block gauge for 23400N-A01-A                        | 95901-N008    |
| 9. Mount block 23400J-B02-A                            | 95901-N009    |
| 10. 23400K-C73-A Driver bit                            | 95901-K159    |
| 11. 23400N-B01-A (Mirror angle adjusting jig)          | 95901-N035    |
| 12. 23400K-A67-A1 Spanner                              | 95901-K145    |
| 13. Driver 23400K-A9, A65-A                            | 95901-K180    |
| 14. Driver bit 23400K-E80-A                            | 95901-K165    |
| 15. Colimator  | N/A           |
| 16. Regulated DC power supply                          | N/A           |
| 17. Circuit tester                                     | N/A           |

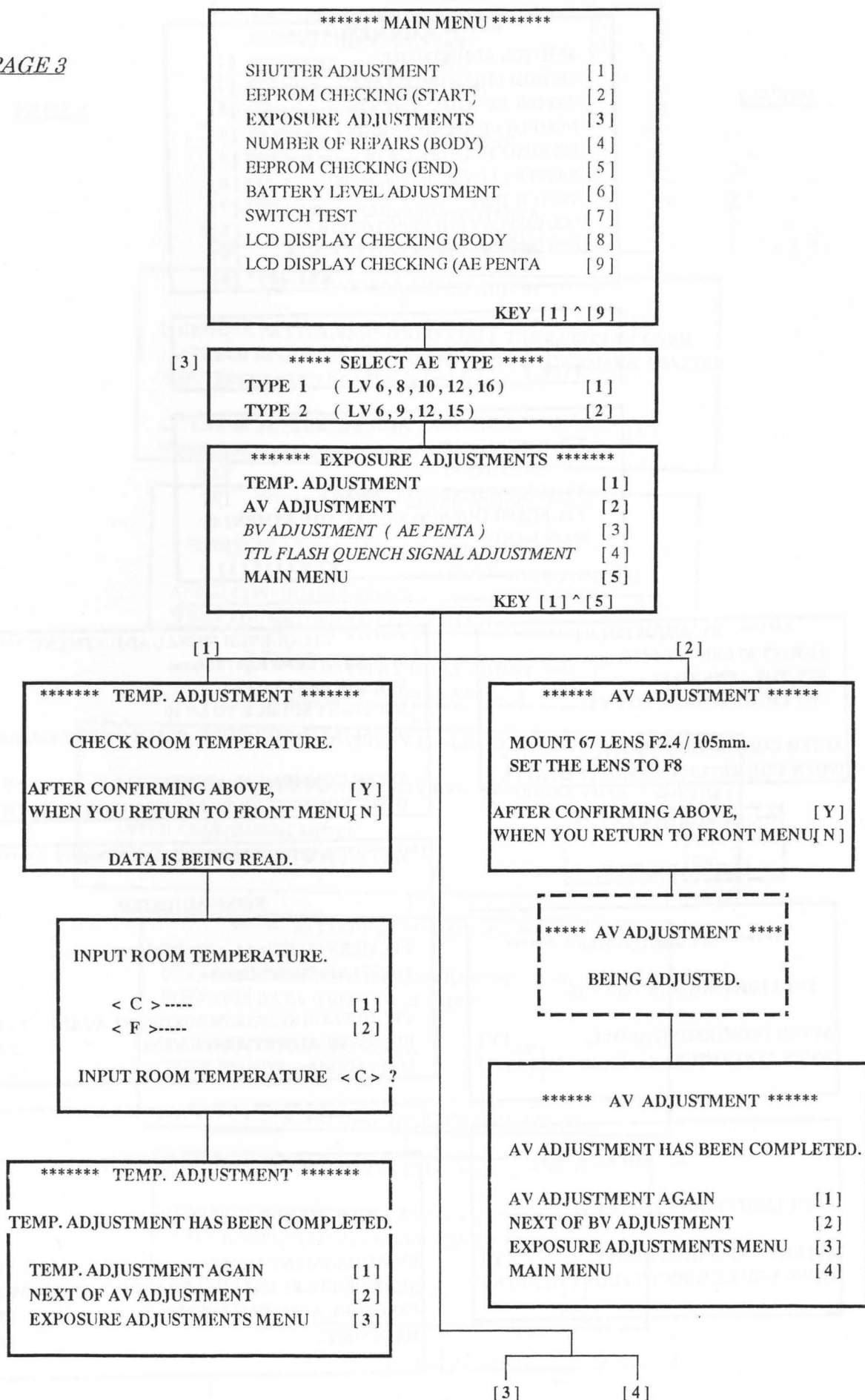
# Programmed Soft Flow chart

PAGE 1









| ***** MAIN MENU *****           |  |       |
|---------------------------------|--|-------|
| SHUTTER ADJUSTMENT              |  | [ 1 ] |
| EEPROM CHECKING (START)         |  | [ 2 ] |
| EXPOSURE ADJUSTMENTS            |  | [ 3 ] |
| NUMBER OF REPAIRS (BODY)        |  | [ 4 ] |
| EEPROM CHECKING (END)           |  | [ 5 ] |
| BATTERY LEVEL ADJUSTMENT        |  | [ 6 ] |
| SWITCH TEST                     |  | [ 7 ] |
| LCD DISPLAY CHECKING (BODY)     |  | [ 8 ] |
| LCD DISPLAY CHECKING (AE PENTA) |  | [ 9 ] |
| KEY [ 1 ] ^ [ 9 ]               |  |       |

|       |                                    |       |
|-------|------------------------------------|-------|
| [ 3 ] | ***** SELECT AE TYPE *****         |       |
|       | TYPE 1 ( LV 6 , 8 , 10 , 12 , 16 ) | [ 1 ] |
|       | TYPE 2 ( LV 6 , 9 , 12 , 15 )      | [ 2 ] |

| ***** EXPOSURE ADJUSTMENTS *****   |  |       |
|------------------------------------|--|-------|
| TEMP. ADJUSTMENT                   |  | [ 1 ] |
| AV ADJUSTMENT                      |  | [ 2 ] |
| BV ADJUSTMENT ( AE PENTA )         |  | [ 3 ] |
| TTL FLASH QUENCH SIGNAL ADJUSTMENT |  | [ 4 ] |
| MAIN MENU                          |  | [ 5 ] |
| KEY [ 1 ] ^ [ 5 ]                  |  |       |

| ***** BV ADJUSTMENT *****     |  |       |
|-------------------------------|--|-------|
| MOUNT 67 LENS F2.4 / 105mm.   |  |       |
| SET THE LENS TO F8            |  |       |
| SET LIGHT SOURCE TO LV 6      |  |       |
| AFTER CONFIRMING ABOVE,       |  | [ Y ] |
| WHEN YOU RETURN TO FRONT MENU |  | [ N ] |

\*\*\* BV ADJUSTMENT \*\*\*  
 BEING ADJUSTED.

| ***** BV ADJUSTMENT *****     |  |       |
|-------------------------------|--|-------|
| SET LIGHT SOURCE TO LV 15.    |  |       |
| AFTER CONFIRMING ABOVE,       |  | [ Y ] |
| WHEN YOU RETURN TO FRONT MENU |  | [ N ] |

| ***** BV CHECK*****           |  |       |
|-------------------------------|--|-------|
| SET LIGHT SOURCE TO LV 12.    |  |       |
| AFTER CONFIRMING ABOVE,       |  | [ Y ] |
| WHEN YOU RETURN TO FRONT MENU |  | [ N ] |

| ***** TTL QUENCH SIGNAL ADJUSTMENT ***** |  |       |
|--|--|-------|
| MOUNT 67 LENS F2.4 / 105mm.              |  |       |
| SET THE LENS TO F2.4                     |  |       |
| SET LIGHT SOURCE TO LV 10                |  |       |
| ATTACH TTL ADJUSTING PLATE ONTO CAMERA.  |  |       |
| AFTER CONFIRMING ABOVE,                  |  | [ Y ] |
| WHEN YOU RETURN TO FRONT MENU,           |  | [ N ] |

| ***** TTL QUENCH SIGNAL ADJUSTMENT *****           |  |       |
|--|--|-------|
| BEING ADJUSTED                                     |  |       |
| TTL QUENCH SIGNAL ADJUSTMENT<br>HAS BEEN COMPLETED |  |       |
| TTL QUENCH SIGNAL ADJUSTMENT AGAIN                 |  | [ 1 ] |
| EXPOSURE ADJUSTMENTS MENU                          |  | [ 2 ] |
| MAIN MENU  |  | [ 3 ] |

| ***** BV ADJUSTMENT *****                  |  |       |
|--|--|-------|
| BV ADJUSTMENT HAS BEEN COMPLETED.          |  |       |
| BV ADJUSTMENT AGAIN                        |  | [ 1 ] |
| NEXT OF TTL FLASH QUENCH SIGNAL ADJUSTMENT |  | [ 2 ] |
| EXPOSURE ADJUSTMENTS MENU                  |  | [ 3 ] |
| MAIN MENU                                  |  | [ 4 ] |

[ 4 ] MAIN MENU

|                                 |       |
|---------------------------------|-------|
| ***** MAIN MENU *****           |       |
| SHUTTER ADJUSTMENT              | [ 1 ] |
| EEPROM CHECKING (START)         | [ 2 ] |
| EXPOSURE ADJUSTMENTS            | [ 3 ] |
| NUMBER OF REPAIRS (BODY)        | [ 4 ] |
| EEPROM CHECKING (END)           | [ 5 ] |
| BATTERY LEVEL ADJUSTMENT        | [ 6 ] |
| SWITCH TEST                     | [ 7 ] |
| LCD DISPLAY CHECKING (BODY)     | [ 8 ] |
| LCD DISPLAY CHECKING (AE PENTA) | [ 9 ] |
| KEY [ 1 ] ^ [ 9 ]               |       |

|  |       |
|--|-------|
| ***** BATTERY LEVEL ADJUST *****                       |       |
| 1) REMOVE BATTERIES AND REINSTALL THE BATTERY COVER.   |       |
| 2) ATTACH REGULATED DC POWER SUPPLY TO CAMERA ADAPTER. |       |
| 3) SET REGULATED DC POWER SUPPLY TO 6 V                |       |
| AFTER CONFIRMING ABOVE,                                | [ Y ] |
| WHEN YOU RETURN TO FRONT MENU,                         | [ N ] |

|  |       |
|--|-------|
| ***** BATTERY LEVEL ADJUST *****         |       |
| * SET REGULATED DC POWER SUPPLY TO 4.5 V |       |
| ( MORE THAN 3 AMPERE )                   |       |
| AFTER CONFIRMING ABOVE,                  | [ Y ] |
| WHEN YOU RETURN TO FRONT MENU,           | [ N ] |

|                                  |  |
|----------------------------------|--|
| ***** BATTERY LEVEL ADJUST ***** |  |
| DATA IS BEING READ. 3            |  |

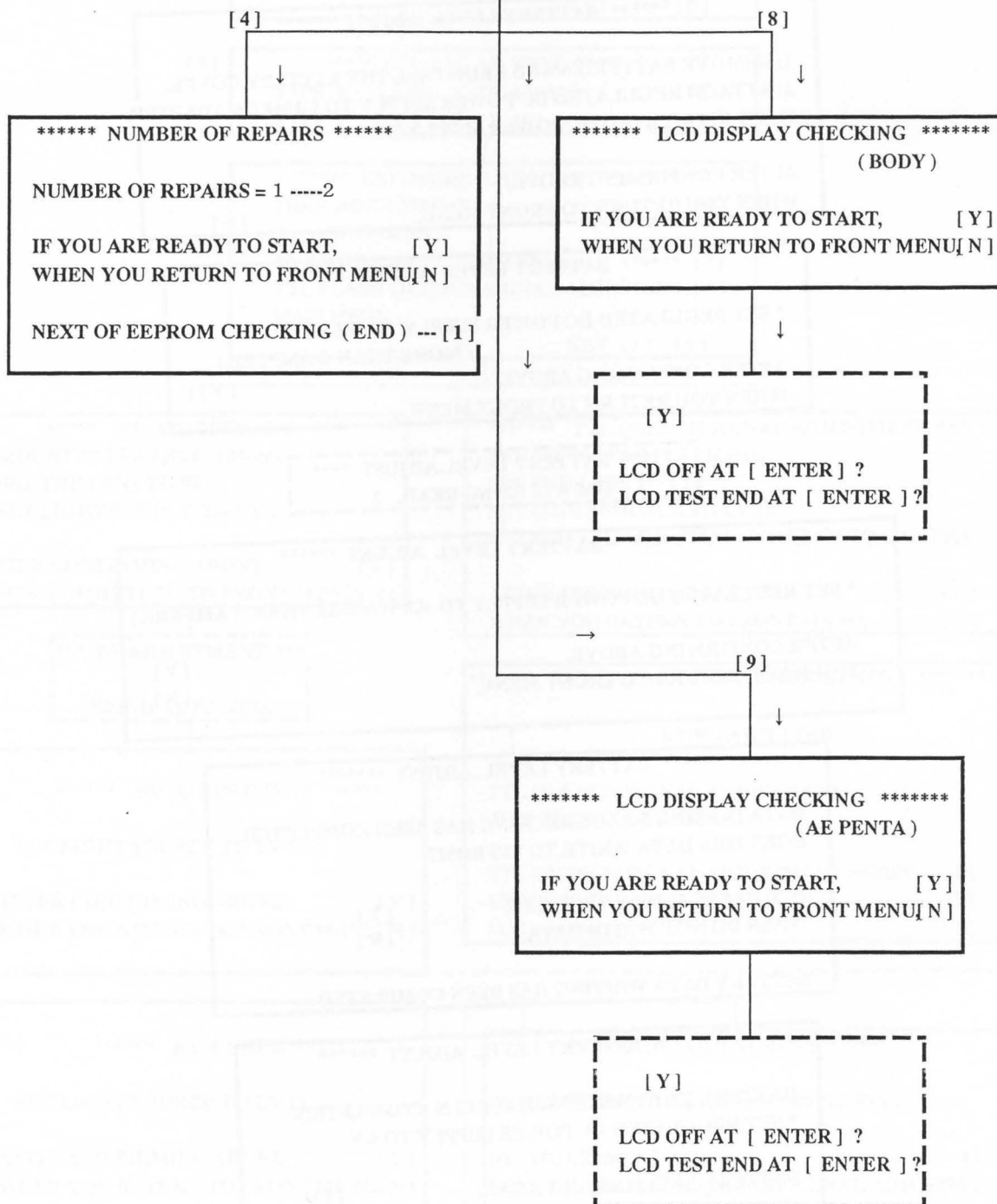
|   |       |
|---|-------|
| ***** BATTERY LEVEL ADJUST *****                              |       |
| * SET REGULATED DC POWER SUPPLY TO 4.2 V (MORE THAN 3 AMPERE) |       |
| AFTER CONFIRMING ABOVE,                                       | [ Y ] |
| WHEN YOU RETURN TO FRONT MENU,                                | [ N ] |

|   |       |
|---|-------|
| ***** BATTERY LEVEL ADJUST *****                |       |
| DATA IS BEING READ CHECKING HAS BEEN COMPLETED. |       |
| DOES THIS DATA WRITE TO EEPROM?                 |       |
| IF YOU ARE READY TO START,                      | [ Y ] |
| WHEN DO NOT WRITE DATA,                         | [ N ] |
| BATTERY DATA WRITING HAS BEEN COMPLETED         |       |

|  |       |
|--|-------|
| ***** BATTERY LEVEL ADJUST *****         |       |
| BATTERY DATA WRITING HAS BEEN COMPLETED. |       |
| * SET REGULATED DC POWER SUPPLY TO 6 V   |       |
| BATTERY LEVEL ADJUST AGAIN               | [ 1 ] |
| MAIN MENU                                | [ 2 ] |

[ 2 ] MAIN MENU

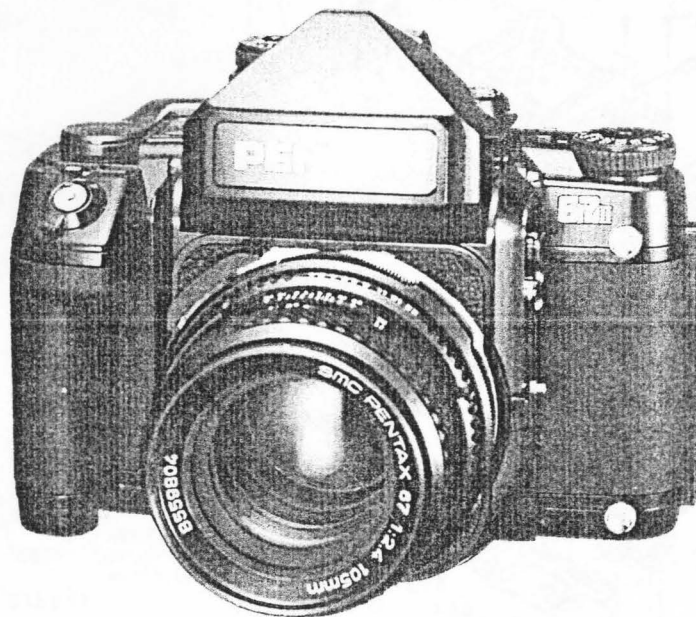
| ***** MAIN MENU *****           |       |
|---------------------------------|-------|
| SHUTTER ADJUSTMENT              | [ 1 ] |
| EEPROM CHECKING (START)         | [ 2 ] |
| EXPOSURE ADJUSTMENTS            | [ 3 ] |
| NUMBER OF REPAIRS (BODY)        | [ 4 ] |
| EEPROM CHECKING (END)           | [ 5 ] |
| BATTERY LEVEL ADJUSTMENT        | [ 6 ] |
| SWITCH TEST                     | [ 7 ] |
| LCD DISPLAY CHECKING (BODY)     | [ 8 ] |
| LCD DISPLAY CHECKING (AE PENTA) | [ 9 ] |
| KEY [ 1 ] ^ [ 9 ]               |       |



**PENTAX®**

# Service Parts List

**PENTAX 67II**

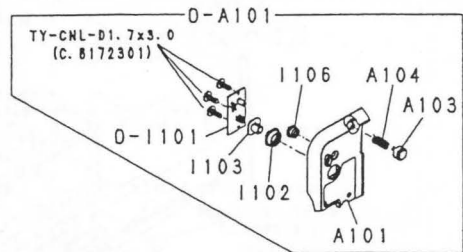
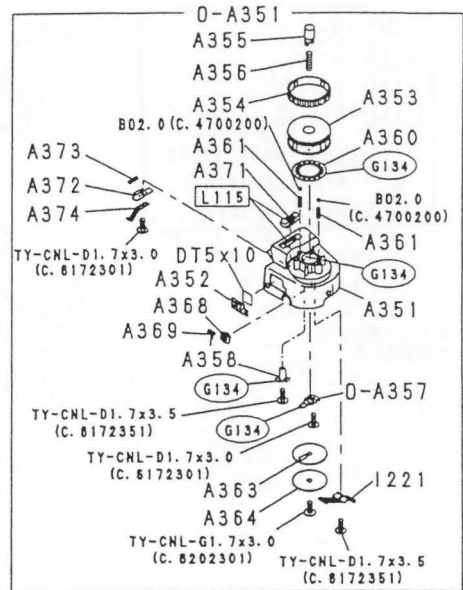
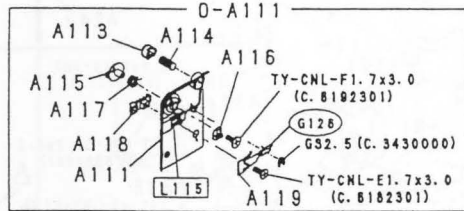
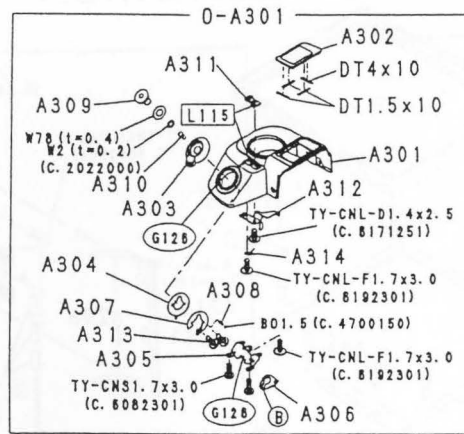
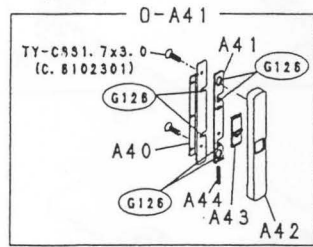


**Product No.27340**



# EXPLODED ILLUSTRATION

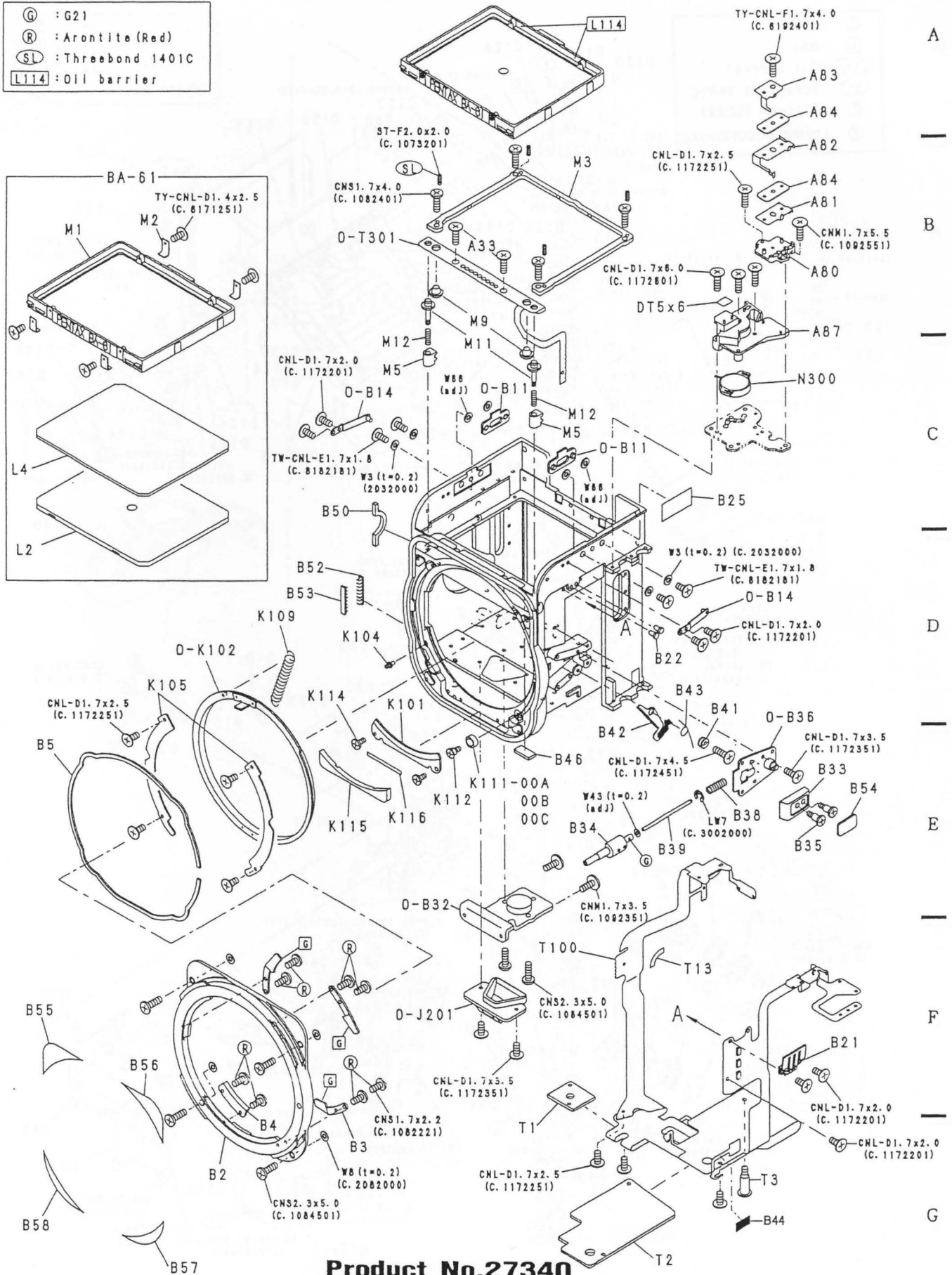
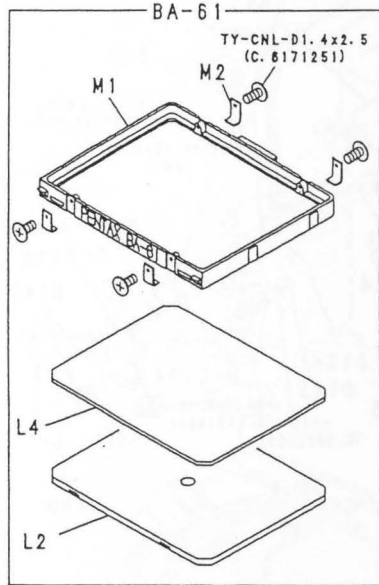
- (G) : G21
- (G126) : G126
- (G134) : G134
- (L114) : Oil barrier
- (L115) : DRY SURF
- (SL) : Threebond 1401C
- (L) : Arontite (Blue)
- (R) : Arontite (Red)
- (B) : Dia bond





# EXPLODED ILLUSTRATION

- (G) : G21
- (R) : Arontite (Red)
- (SL) : Threebond 1401C
- L114 : Oil barrier



Product No.27340  
**PENTAX 67II**

Fig. 3

+

1

2

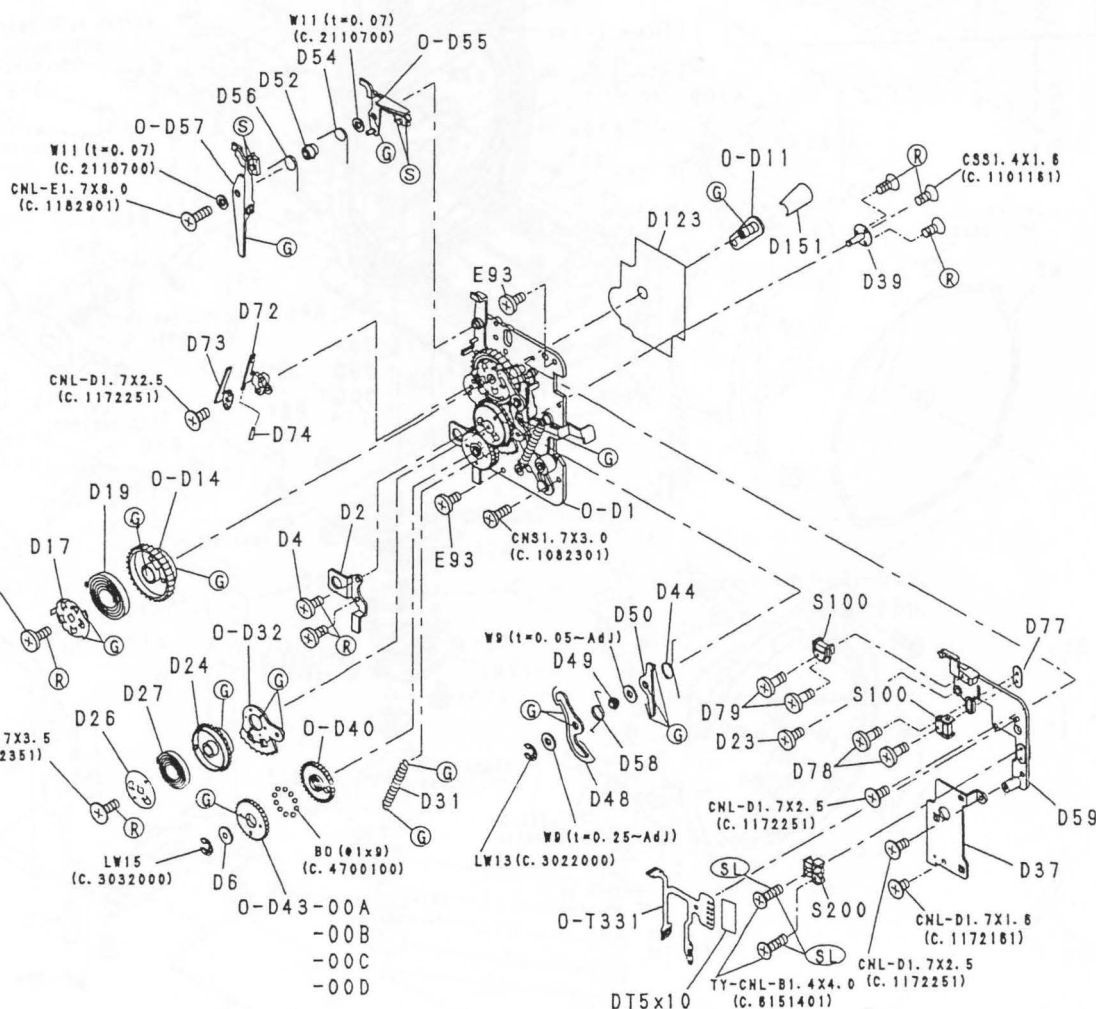
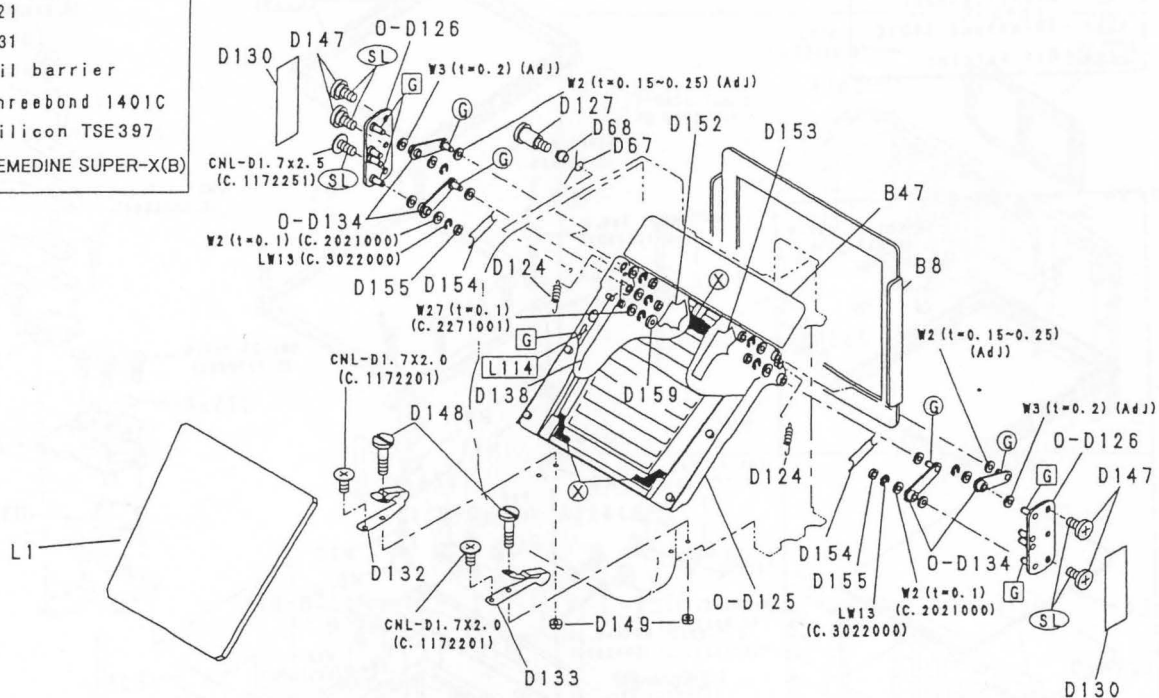
3

4

5

## EXPLODED ILLUSTRATION

|        |                       |
|--------|-----------------------|
| (G)    | : G21                 |
| (G)    | : G31                 |
| (L114) | : Oil barrier         |
| (SL)   | : Threabond 1401C     |
| (S)    | : Silicon TSE397      |
| (X)    | : CEMEDINE SUPER-X(B) |



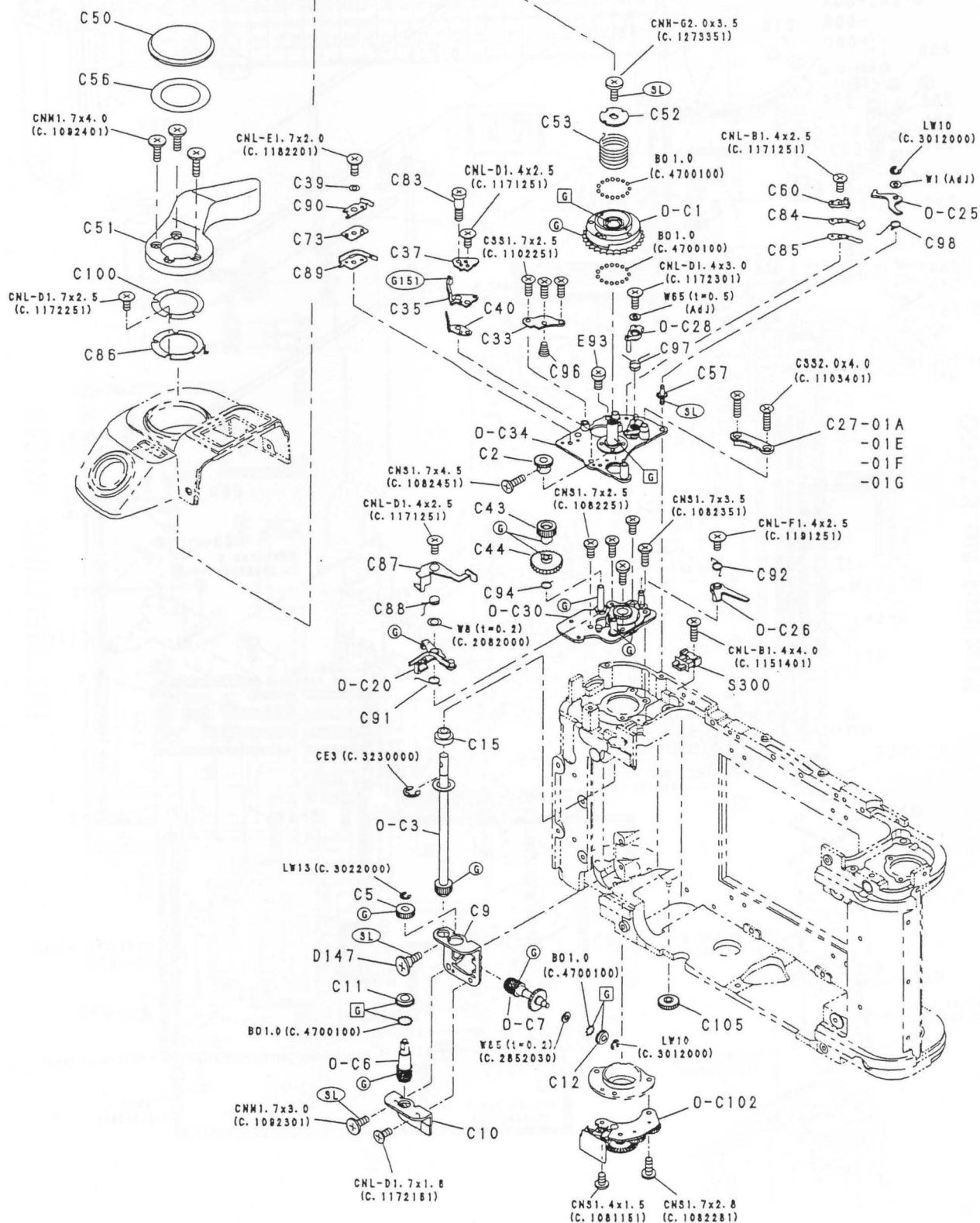
Product No.27340

PENTAX 67 II

Fig.4

# EXPLODED ILLUSTRATION

|       |                   |
|-------|-------------------|
| (G)   | : G21             |
| (G)   | : G31             |
| (L31) | : L31             |
| (SL)  | : Threebond 1401C |



Product No.27340  
PENTAX 67II

Fig. 5



+

1

2

3

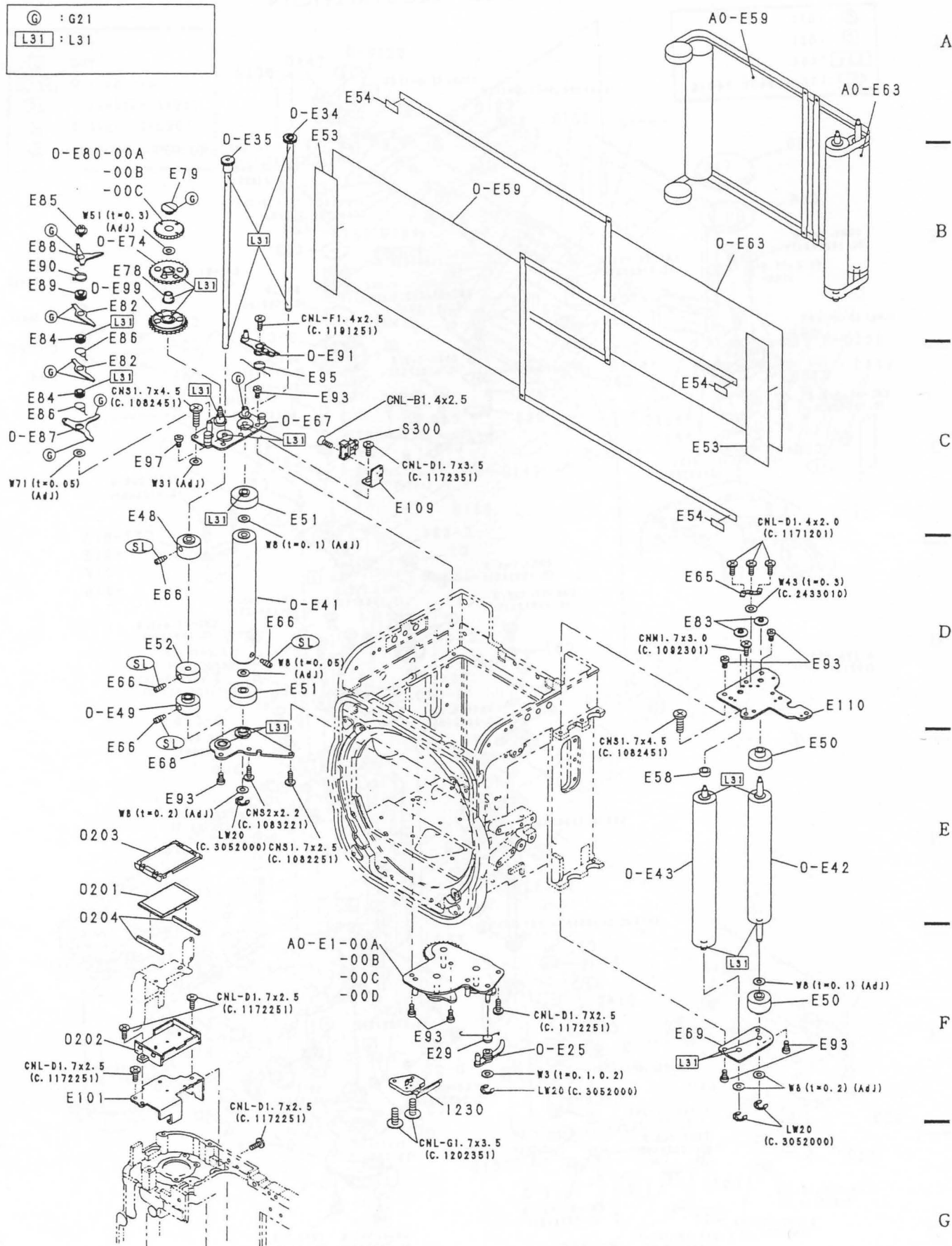
4

5

## EXPLODED ILLUSTRATION

G : G21

L31 : L31

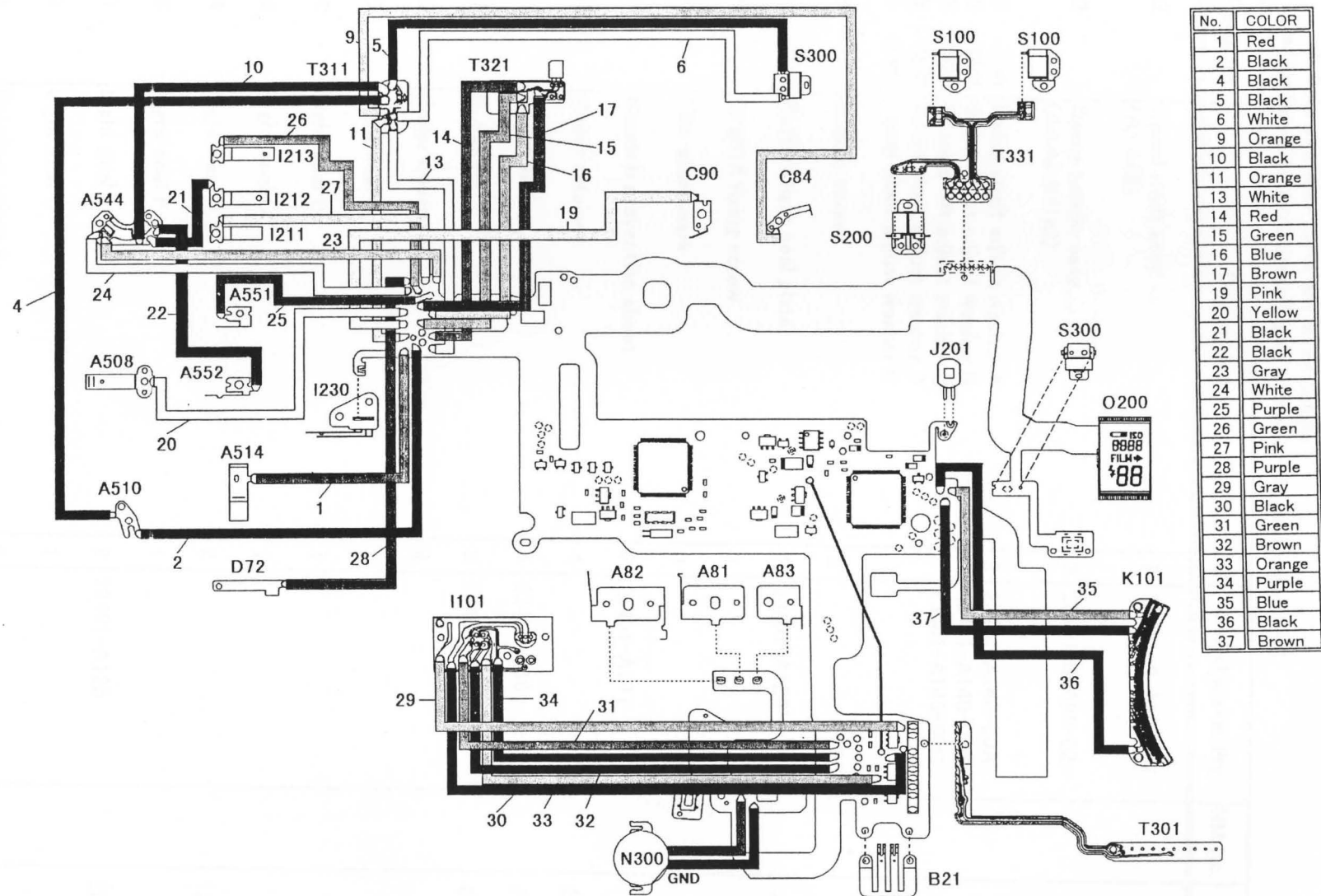


Product No.27340

PENTAX 67II

Fig.6

# DISTRIBUTING WIRES



**Product No.27340**  
**PENTAX 67II**

Fig. 7



# LIST OF SERVICE PARTS

Product No.27340

PENTAX 67 II

NOTE: 1.The parts with numbers starting "0-" are assembled parts.

2.Only available parts are listed below.

\* Q=Quantity A=Address(Fig./Vertical: A-H /Horizontal: 1-6)

| Parts No. | Description                         | Q | Interchangeability | NM No. | A              |
|-----------|-------------------------------------|---|--------------------|--------|----------------|
| 0 - A2    | Spool shaft assy.<br>(A2,A69)       | 2 | 23401-0-A107-01    |        | 2E3            |
| 0 - A3    | Spool handle assy.<br>(A3,A4,A71x2) | 2 | 23401-0-A98-02     |        | 2G3            |
| A5 - 00A  | Spool shaft adjust washer A         | 2 | 23401-A140-00A     |        | 2F4            |
| A5 - 00B  | Spool shaft adjust washer B         |   | 23401-A140-00B     |        | 2F4            |
| A5 - 00C  | Spool shaft adjust washer C         |   | 23401-A140-00C     |        | 2F4            |
| A5 - 00D  | Spool shaft adjust washer D         |   |                    |        | 2F4            |
| A5 - 00E  | Spool shaft adjust washer E         |   |                    |        | 2F4            |
| A6        | Handle screw                        | 2 |                    |        | 2G3            |
| A11       | Bottom light seal plate             | 2 | 23401-A126         |        | 2E2,2E3        |
| A12       | M-BOX fixing screw                  | 1 |                    |        | 1F4            |
| A13       | Film start mark                     | 1 |                    |        | 2E1            |
| A14       | Scratch prevention sheet            | 2 | 23401-A137         |        | 1F4            |
| A15       | Roller retainer                     | 4 |                    |        | 2E1,2F1        |
| A17       | Roller spring                       | 4 | 23401-A46          |        | 2E1,2F1        |
| A18       | Roller                              | 2 | 23401-A47          |        | 2E1,2E2        |
| A19       | Roller collar                       | 4 |                    |        | 2E1            |
| A21       | Light seal A                        | 1 |                    |        | 2E3            |
| A22       | Light seal B                        | 1 |                    |        | 2D2            |
| A23       | Light seal C                        | 1 |                    |        | 2D2            |
| A24       | Light seal D                        | 2 |                    |        | 1D3,1D4        |
| A26       | Light seal F                        | 1 |                    |        | 2D3            |
| A27       | Light seal cloth A                  | 2 | 23401-A125         |        | 2D1,2E4        |
| A29       | Light seal G                        | 1 |                    |        | 2D3            |
| A31       | Retainer screw A                    | 5 |                    |        | 1D4<br>2C2,2G4 |

| Parts No. | Description   | Q | Interchangeability | NM No. | A              |
|-----------|---|---|--------------------|--------|----------------|
| A32       | Retainer screw B  | 1 |                    |        | 1F3            |
| A33       | Retainer screw C  | 6 |                    |        | 1E4,1F5<br>3B3 |
| A34       | Retainer screw D  | 4 |                    |        | 1C2,2C2        |
| A35       | Retainer screw E  | 4 |                    |        | 2F3            |
| A36       | Retainer screw F  | 1 |                    |        | 1D1            |
| A37       | Top cover retainer screw  | 1 | 27460-X30          |        | 1G1            |
| A38       | Back-tension retainer screw   | 1 | 26900-A408         |        | 2C2            |
| 0 - A41   | Back cover key rest assy.<br>(A40,A41,A42,A43,A44,<br>TY-CSS1.7x3.0 x2)                         |   |                    |        | 1B1,1G5        |
| A40       | Back cover key rest   | 1 |                    |        | 1C1            |
| A41       | Back cover key  | 1 |                    |        | 1B1            |
| A42       | Key cover   | 1 |                    |        | 1C2            |
| A43       | Back cover key knob   | 1 |                    |        | 1C1            |
| A44       | Back cover key spring   | 1 |                    |        | 1C1            |
| 0 - A48   | Film contact roller A assy.<br>(A46,A48,A50 x2,A51,A52,A53 x2,A54,<br>A55,A56,A58,A59,A60,LW13) | 1 |                    |        | 2E4            |
| 0 - A49   | Film contact roller B assy.<br>(A47,A49,A50 x2,A51,A53 x2,A54,A55,<br>A57,A58,A59,A60,A73,LW13) | 1 |                    |        | 2D2            |
| 0 - A61   | Counter roller assy.<br>(A61,C101)  | 1 |                    |        | 2E2            |
| A62       | Roller shaft metal  | 1 |                    |        | 2E3            |
| A64       | Guide roller  | 1 | 23401-A64-01       |        | 2D2            |
| A65       | Protection plate  | 2 | 23401-A65          |        | 2G3            |
| A66       | Spool shaft holder  | 2 |                    |        | 2F3            |
| A67       | Metal nut   | 2 | 23401-A67-02       |        | 2G3            |
| A68       | Guide roller shaft  | 3 | 23401-A68          |        | 2D2,2D3<br>2E3 |
| A70       | Spool handle spring   | 2 | 23401-A70-01       |        | 2G3            |
| A72       | Spool click spring  | 2 | 23401-A72-01       |        | 2F3            |

| Parts No. | Description   | Q | Interchangeability | NM No. | A       |
|-----------|---|---|--------------------|--------|---------|
| A74       | Spool retainer spring   | 2 | 23401-A74-01       |        | 2E3     |
| 0 - A75   | Back-tension shaft assy.<br>(A8,A9,A10,A75,A76,A77,A78,A79)   | 1 |                    |        | 2D2     |
| A80       | Back cover SW pedestal  | 1 |                    |        | 3B5     |
| A81       | Back cover SW contact A   | 1 |                    |        | 3B5     |
| A82       | Back cover SW contact B   | 1 |                    |        | 3A5     |
| A83       | Back cover SW contact C   | 1 |                    |        | 3A5     |
| A84       | Back cover SW insulation plate  | 2 |                    |        | 3A5     |
| A85       | Switching pin   | 1 |                    |        | 1F4     |
| A86 - 00A | Key box adjust washer A   | 1 | 23401-A86-00A      |        | 1G4     |
| A86 - 00B | Key box adjust washer B   |   | 23401-A86-00B      |        | 1G4     |
| A87       | PVC holder  | 1 |                    |        | 3B5     |
| A88       | Accessory lug   | 2 |                    |        | 1F3,1G3 |
| 0 - A101  | Left side cover assy.<br>(A101,A103,A104,I101,I102,I103,I105 x5,<br>I106,I107,I108,I109,I110 x2,I111,LW7 x2,<br>TY-CNL-D1.7x3.0 x2) |   |                    |        | 1C4,1D4 |
| A101      | Left side cover   | 1 |                    |        | 1D5     |
| A102      | Left side covering  | 1 |                    |        | 1E4     |
| A103      | Penta prism lock button L   | 1 |                    |        | 1C5     |
| A104      | Penta prism lock spring L   | 1 |                    |        | 1C5     |
| 0 - A111  | Right side cover assy.<br>(A111,A113,A114,A115,A116,A117,<br>A118,A119,TY-CNL-E1.7x3.0,<br>TY-CNL-F1.7x3.0,GS2.5)                   |   |                    |        | 1B3,1D3 |
| A111      | Right side cover  | 1 |                    |        | 1C2     |
| A112      | Right side cover covering   | 1 |                    |        | 1D2     |
| A113      | Penta prism lock button R   | 1 |                    |        | 1B2     |
| A114      | Penta prism lock spring R   | 1 |                    |        | 1B2     |
| A115      | Mirror-up lever   | 1 |                    |        | 1C2     |
| A116      | Mirror-up brush   | 1 |                    |        | 1C3     |
| A117      | Mirror-up lever spring  | 1 |                    |        | 1C2     |

| Parts No. | Description  | Q | Interchangeability | NM No. | A       |
|-----------|--|---|--------------------|--------|---------|
| A118      | PS. TIME lever   | 1 |                    |        | 1C2     |
| A119      | PS. TIME sliding plate   | 1 |                    |        | 1C3     |
| A120      | Bottom cover plate   | 1 |                    |        | 1D2     |
| A121      | Bottom cover   | 1 |                    |        | 1D1     |
| A122      | Bottom cover covering  | 1 |                    |        | 1D1     |
| A123      | Country seal   | 1 | 26500-A119-0100J   |        | 1D2     |
| A124      | Number seal  | 1 | 27251-A404         |        | 1D2     |
| A131      | Front cover, left  | 1 |                    |        | 1F3     |
| A132      | Covering rubber, left  | 1 |                    |        | 1G3     |
| 0 - A201  | Back cover assy.<br>(A201,A203,A204,A207,A208,A209,<br>A210,A211,A213,A214 x2,A216 x2,<br>A212,A217 x4,A218,A219,A221,A222,<br>A223,A224,A226,A228 x2,A229 x4,<br>A232,A234, A235,A236,A237,A238 x4,<br>A239,A240 x6,A241,A242,A243 x2,<br>A224 x2,A245 x3,A246,<br>TY-CNS1.7x3.0 x5, LW10 x2) | 1 |                    |        | 2A4,2C5 |
| A208      | Back cover light seal I  | 2 |                    |        | 2B3     |
| A209      | Rear plate light seal cushion  | 1 | 23401-A169         |        | 2B5     |
| A210      | Back cover light seal D  | 1 |                    |        | 2B3     |
| A226      | Memo holder  | 1 |                    |        | 2A5     |
| 0 - A227  | Pressure plate assy.<br>(A220,A227)  | 1 |                    |        | 2D4     |
| A242      | Film roller shaft  | 1 | 23401-A158         |        | 2B4     |
| A243      | Film roller  | 2 | 23401-A159         |        | 2A4,2B4 |
| A245      | Film anti-friction roller  | 3 | 23401-A165         |        | 2B4     |
| 0 - A301  | Top cover assy., right<br>(A301,A302,A303,A304,A305,A306,A307,<br>A308,A309,A310,A311,A312,A313 x2,<br>A314,A315 x3,A316,TY-CNL-D1.4x2.5,<br>TY-CNL-E1.7x3.0,TY-CNL-F1.7x3.0,<br>TY-CNS1.7x3.0 x2)   |   |                    |        | 1A3,1E3 |
| A301      | Top cover, right   | 1 |                    |        | 1A3     |
| A302      | LCD window   | 1 |                    |        | 1A3     |

| Parts No. | Description  | Q | Interchangeability | NM No. | A       |
|-----------|--|---|--------------------|--------|---------|
| A303      | Main dial  | 1 |                    |        | 1B2     |
| A304      | Dial plate   | 1 |                    |        | 1B2     |
| A305      | Main dial click plate  | 1 |                    |        | 1B2     |
| A306      | Release pin retainer plate   | 1 |                    |        | 1B3     |
| A307      | Main SW brush  | 1 |                    |        | 1B2     |
| A308      | Main dial ball spring  | 1 |                    |        | 1B3     |
| A309      | Release button   | 1 | 27350-A321         |        | 1A2     |
| A310      | Release pin  | 1 | 27350-A322         |        | 1A2     |
| A311      | M.E. operation lever   | 1 |                    |        | 1A3     |
| A312      | M.E. lever   | 1 |                    |        | 1A3     |
| A313      | Main dial retainer screw   | 2 |                    |        | 1B2     |
| A314      | M.E. lever spring  | 1 |                    |        | 1B3     |
| A321      | Rear cover   | 1 |                    |        | 2C3     |
| A322      | Rear cover spacer  | 1 |                    |        | 2D2     |
| A324      | AE button retainer spring  | 1 |                    |        | 2C3     |
| 0 - A351  | Top cover assy.,left<br>(A351,A352,A353,A354,A355,A356,<br>A357,A358,A360,A361x2,A363,A364,<br>A368,A369,A371,A372,A373,A374,<br>A378,A379 x2,I221,BO2.0 x2,<br>TY-CNL-D1.7x3.0 x2,<br>TY-CNL-D1.7x3.5 x2,<br>TY-CNL-G1.7x3.0) |   |                    |        | 1A4,1F5 |
| A351      | Top cover,left   | 1 |                    |        | 1B5     |
| A352      | Name plate   | 1 |                    |        | 1B4     |
| A353      | TV dial  | 1 |                    |        | 1A5     |
| A354      | TV dial rubber   | 1 |                    |        | 1A4     |
| A355      | TV dial stopper release button   | 1 |                    |        | 1A4     |
| A356      | TV dial stopper release button spring  | 1 |                    |        | 1A4     |
| 0 - A357  | TV dial stopper spring assy.<br>(A357,A378,A379 x2)  | 1 |                    |        | 1B5     |
| A358      | TV dial stopper plate  | 1 |                    |        | 1A4     |

| Parts No. | Description   | Q | Interchangeability | NM No. | A       |
|-----------|---|---|--------------------|--------|---------|
| A360      | TV dial click plate   | 1 |                    |        | 1A5     |
| A361      | TV dial click spring  | 2 |                    |        | 1A4,1B5 |
| A363      | TV dial support plate   | 1 |                    |        | 1C4     |
| A364      | TV dial code plate  | 1 |                    |        | 1C4     |
| A368      | AE / ISO button   | 2 |                    |        | 2C3     |
| A369      | AE / ISO button retainer spring                                       | 1 |                    |        | 1B4     |
| A371      | U / D lever   | 1 |                    |        | 1B4     |
| A372      | U / D slide plate   | 1 |                    |        | 1A4     |
| A373      | U / D lever spring  | 1 |                    |        | 1A4     |
| A374      | U / D brush   | 1 |                    |        | 1B4     |
| A401      | Under cover, right  | 1 |                    |        | 2F4     |
| A451      | Under cover, left   | 1 |                    |        | 2F2     |
| 0 - A501  | Grip assy.<br>(A501,A511 x4)  | 1 |                    |        | 1F1     |
| 0 - A502  | Grip base plate assy.<br>(A502,A531,A532,A533 x2,A534 x2,<br>A538 x2) | 1 |                    |        | 1E2     |
| A503      | Battery cover screw   | 1 |                    |        | 1F2     |
| 0 - A504  | Battery cover assy.<br>(A504,A505,A506,A507)                          | 1 |                    |        | 2F4     |
| A508      | Reset SW contact A  | 1 |                    |        | 1E3     |
| A509      | Reset SW contact B  | 1 |                    |        | 1F2     |
| A510      | Battery contact spring (-)  | 1 |                    |        | 1G2     |
| A512      | Grip rubber   | 1 |                    |        | 1F1     |
| A513      | Grip hole cover   | 1 |                    |        | 1F1     |
| A514      | Battery contact spring  | 1 |                    |        | 1F2     |
| A515      | Grip retainer screw   | 2 |                    |        | 1F1     |
| A519      | Reset SW pin  | 1 |                    |        | 1F2     |
| A522      | DT for grip rubber  | 1 |                    |        | 1F1,1G3 |
| A535      | Battery case lever spring hook  | 1 |                    |        | 1E2     |

| Parts No. | Description                                  | Q | Interchangeability | NM No. | A          |
|-----------|--|---|--------------------|--------|------------|
| A536      | Battery case lever spring A                  | 1 |                    |        | 1F2        |
| A537      | Battery case lever spring B                  | 1 |                    |        | 1E2        |
| A541      | Release SW stand                             | 1 |                    |        | 1E2        |
| A542      | Main SW pedestal                             | 1 |                    |        | 1E1        |
| A543      | Release contact holder plate                 | 1 | 27350-A515         |        | 1E1        |
| A544      | Main SW board                                | 1 |                    |        | 1E1        |
| A551      | M.E. SW fixed contact piece                  | 1 |                    |        | 1E2        |
| A552      | M.E. SW moving contact piece                 | 1 |                    |        | 1E2        |
| A553      | M.E. SW insulation plate                     | 1 |                    |        | 1E2        |
| B2        | Bayonet seat                                 | 1 |                    |        | 3G2        |
| B3        | Bayonet spring                               | 3 | 23401-B3           |        | 3G2        |
| B4        | Bayonet stopper                              | 1 | 23401-B4           |        | 3G2        |
| B5        | Light seal string                            | 1 |                    |        | 3E1        |
| B8        | Mirror housing frame                         | 1 | 23401-B63-01       |        | 4B4        |
| 0 - B11   | View finder lock plate assy.<br>(B11,B12 x2) | 2 | 23401-0-B73-01     |        | 3C3<br>3C4 |
| 0 - B14   | Lock release pin assy.<br>(B13, B14)         | 2 |                    |        | 3C2<br>3D4 |
| B21       | Focus screen SW contact                      | 1 |                    |        | 3F5        |
| B22       | Focus screen SW pin                          | 2 |                    |        | 3D4        |
| B25       | Electrostatic protection tape                | 1 |                    |        | 3C4        |
| 0 - B32   | Tripod plate assy.<br>(B31,B32)              | 1 |                    |        | 3E3        |
| B33       | Lock-pin lever                               | 1 |                    |        | 3E5        |
| B34       | Lock-pin                                     | 1 | 23401-B34-02       |        | 3E3        |
| B35       | Lock-pin lever retainer screw                | 2 | 23401-B35-01       |        | 3E5        |
| 0 - B36   | Lock-pin guide assy.<br>(B36,B37,B40)        | 1 |                    |        | 3D4        |



| Parts No. | Description  | Q | Interchangeability | NM No. | A   |
|-----------|--|---|--------------------|--------|-----|
| B38       | Lock spring  | 1 | 23401-B53          |        | 3E4 |
| B39       | AM SW pin  | 1 | 23401-B62          |        | 3E4 |
| B41       | AM SW collar   | 1 |                    |        | 3D4 |
| B42       | AM SW  | 1 |                    |        | 3E4 |
| B43       | AM SW spring   | 1 |                    |        | 3D4 |
| B44       | Black sheet  | 1 | 27020-A44          |        | 3G4 |
| B46       | Mirror sheet cushion   | 1 |                    |        | 3E3 |
| B47       | Light seal curtain   | 1 | 23401-B95          |        | 4B4 |
| B50       | Light seal cushion   | 1 |                    |        | 3C2 |
| B52       | Diaphragm actuator light seal A  | 1 | 23401-B100         |        | 3D2 |
| B53       | Diaphragm actuator light seal B  | 1 | 23401-B101-01      |        | 3D2 |
| B54       | Lock-pin lever covering  | 1 |                    |        | 3E5 |
| B55       | Bayonet seat covering A  | 1 |                    |        | 3F1 |
| B56       | Bayonet seat covering B  | 1 |                    |        | 3F1 |
| B57       | Bayonet seat covering C  | 1 |                    |        | 3G1 |
| B58       | Bayonet seat covering D  | 1 |                    |        | 3G1 |
| 0 - C1    | Shutter charge main gear assy.<br>(C1,C22,C29,C41,C42,C69,C70,C71,<br>C72,C93)     | 1 |                    |        | 5B4 |
| C2        | Mirror charge 1st gear   | 1 |                    |        | 5D3 |
| 0 - C3    | Mirror coupler rod assy.<br>(C3,C4,C12,W85 t=0.2,BO1.0 x8,<br>CE-3,LW13)           | 1 |                    |        | 5E2 |
| C5        | Mirror charge 3rd gear   | 1 |                    |        | 5F2 |
| 0 - C6    | Mirror charge 4th gear assy.<br>(C6,C12,W85 t=0.2,BO1.0 x8,LW13)                   | 1 |                    |        | 5F2 |
| 0 - C7    | Mirror charge 5th gear assy.<br>(C7,C8,C12 x2,W85 t=0.2,BO1.0 x16<br>LW10 x2,LW13) | 1 |                    |        | 5F4 |
| C9        | Mirror charge install plate A  | 1 |                    |        | 5F3 |

| Parts No. | Description  | Q | Interchangeability | NM No. | A   |
|-----------|--|---|--------------------|--------|-----|
| C10       | Mirror charge install plate B  | 1 |                    |        | 5G3 |
| C11       | Ball receptacle A  | 1 |                    |        | 5F2 |
| C12       | Ball receptacle B  | 1 |                    |        | 5F3 |
| C15       | Ball bearing   | 1 |                    |        | 5E3 |
| 0 - C20   | Winding stopper assy.<br>(C17,C20,C21,C65 x2,C77)  | 1 |                    |        | 5E2 |
| 0 - C25   | Duality prevention coupler lever assy.<br>(C25,C58)  | 1 |                    |        | 5B5 |
| 0 - C26   | Winding lock interval lever B assy.<br>(C26,C79)   | 1 |                    |        | 5D4 |
| C27 - 01A | Winding stopper A  | 1 | 23401-C27-01A      |        | 5D5 |
| C27 - 01E | Winding stopper E  |   |                    |        | 5D5 |
| C27 - 01F | Winding stopper F  |   |                    |        | 5D5 |
| C27 - 01G | Winding stopper G  |   |                    |        | 5D5 |
| 0 - C28   | Winding ratchet assy.<br>(C28,C80,C82)   | 1 |                    |        | 5C4 |
| 0 - C30   | Spool shaft plate assy.<br>(C30,C31,C32,C45,C46,C47,C48,C49,<br>C66,C78,C81,C95,CNS1.4x1.5)                                  | 1 |                    |        | 5D3 |
| C33       | Winding support plate  | 1 |                    |        | 5C3 |
| 0 - C34   | Winding shaft plate assy.<br>(C28,C34,C54,C55 x4,C67,C68 x2,<br>C74 x2,C75,C76,C80,C82,C97,E100,<br>CNL-D1.4x3.0,W65 t=0.05) | 1 |                    |        | 5C3 |
| C35       | Winding lever click spring   | 1 |                    |        | 5B3 |
| C37       | Winding lever click SW spacer A  | 1 |                    |        | 5B3 |
| C39       | Winding SW insulation washer A   | 1 |                    |        | 5B2 |
| C40       | Click spring support plate   | 1 |                    |        | 5C3 |
| C43       | Winding 2nd gear   | 1 | 23401-C43-02       |        | 5D3 |
| C44       | Winding 3rd gear   | 1 | 23401-C44-02       |        | 5D4 |
| C50       | Winding lever cover  | 1 |                    |        | 5B1 |
| C51       | Winding lever  | 1 |                    |        | 5B1 |
| C52       | Winding shaft receptacle plate   | 1 |                    |        | 5B4 |
| C53       | Winding lever spring   | 1 | 23401-C58          |        | 5B3 |

| Parts No. | Description  | Q | Interchangeability | NM No. | A   |
|-----------|--|---|--------------------|--------|-----|
| C56       | DT for winding lever cover   | 1 |                    |        | 5B1 |
| C57       | Duality prevention coupler lever shaft   | 1 | 23401-C73          |        | 5C4 |
| C60       | Winding SW stand   | 1 |                    |        | 5B4 |
| C73       | Winding lever SW stand   | 1 |                    |        | 5C2 |
| C83       | Winding shaft guide screw  | 1 |                    |        | 5B3 |
| C84       | Winding halfway SW   | 1 |                    |        | 5B4 |
| C85       | Halfway SW insulation plate  | 1 |                    |        | 5C4 |
| C86       | M.E. sine lever  | 1 |                    |        | 5C1 |
| C87       | M.E. stopper plate   | 1 |                    |        | 5D2 |
| C88       | M.E. stopper spring  | 1 |                    |        | 5D2 |
| C89       | Winding lever click SW   | 1 |                    |        | 5C2 |
| C90       | Winding lever click fixed contact  | 1 |                    |        | 5B2 |
| C91       | Winding stopper spring   | 1 |                    |        | 5E2 |
| C92       | Winding lock lever spring  | 1 |                    |        | 5D4 |
| C94       | Spool reversal stopper spring  | 1 | 23401-C117-01      |        | 5D3 |
| C96       | Winding 2nd gear spring  | 1 | 23401-C119         |        | 5C3 |
| C97       | Ratchet spring   | 1 |                    |        | 5C4 |
| C98       | Duality prevention coupler lever spring  | 1 | 23401-C125         |        | 5C5 |
| C100      | Winding lever spacer   | 1 |                    |        | 5C1 |
| 0 - C102  | Pulsar base plate assy.<br>(C102,C103 x2,C104,C106 x2,C107)<br>C108,T321,T322,TY-CNL-B1.4x2.0) | 1 |                    |        | 5G4 |
| C105      | Counter roller gear  | 1 |                    |        | 5F4 |

| Parts No.     | Description   | Q | Interchangeability | NM No. | A   |
|---------------|---|---|--------------------|--------|-----|
| 0 - D1        | Mirror base plate assy.<br>(D1,D2,D4 x4,D6,D8,D9,D10,D11,D14,<br>D15,D16 x3,D17,D19,D22,D24,D26,D27,<br>D28,D29,D30,D31,D32,D33,D34,D36,<br>D39,D40,D41,D42 x2,D43,D44,D45,D46,<br>D47,D48,D49,D50,D51,D53,D123,D151,<br>CSS1.4x1.6 x3,CNH-G2.0x3.5<br>CNL-G1.7x3.5,LW13,LW15,BO1.0 x9,<br>W9 t=0.05(adj.),W9 t=0.25(adj.)) | 1 |                    |        | 4E3 |
| D2            | Support base plate  | 1 |                    |        | 4E2 |
| D4            | Base plate screw B  | 2 | 25000-B4           |        | 4E2 |
| D6            | Ball receptacle washer A  | 1 |                    |        | 4G2 |
| 0 - D11       | Mirror actuator arm assy.<br>(D10,D11,D12)  | 1 |                    |        | 4D4 |
| 0 - D14       | Center gear assy.<br>(D14,D15,D16 x3)   | 1 |                    |        | 4E2 |
| D17           | Mirror operation plate  | 1 |                    |        | 4E1 |
| D19           | Flip-up spiral spring   | 1 | 23401-D19          |        | 4E2 |
| D23           | Mg plate retainer screw   | 1 |                    |        | 4F4 |
| D24           | Restoring gear  | 1 |                    |        | 4F2 |
| D26           | Mirror restoring spiral spring shaft  | 1 |                    |        | 4F2 |
| D27           | Restoring spiral spring   | 1 | 23401-D27          |        | 4F2 |
| D31           | Swing lever spring  | 1 |                    |        | 4F3 |
| 0 - D32       | Diaphragm charge gear assy.<br>(D32,D33)  | 1 |                    |        | 4F2 |
| D37           | FPC install plate   | 1 |                    |        | 4G5 |
| D39           | Diaphragm interval gear shaft   | 1 |                    |        | 4D4 |
| 0 - D40       | Mirror charge double gear assy.<br>(D40,D41,D42)  | 1 |                    |        | 4F2 |
| 0 - D43 - 00A | Mirror charge interval gear A assy.<br>(D42,D43-00A)  | 1 |                    |        | 4G2 |
| 0 - D43 - 00B | Mirror charge interval gear B assy.<br>(D42,D43-00B)  |   |                    |        | 4G2 |
| 0 - D43 - 00C | Mirror charge interval gear C assy.<br>(D42,D43-00C)  |   |                    |        | 4G2 |
| 0 - D43 - 00D | Mirror charge interval gear D assy.<br>(D42,D43-00D)  |   |                    |        | 4G2 |

| Parts No. | Description   | Q | Interchangeability | NM No. | A       |
|-----------|---|---|--------------------|--------|---------|
| D44       | Release spring  | 1 |                    |        | 4F4     |
| D48       | Mirror stopper hook   | 1 |                    |        | 4F3     |
| D49       | Diaphragm stopper hook collar   | 1 |                    |        | 4F3     |
| D50       | Diaphragm stopper hook  | 1 |                    |        | 4F3     |
| D52       | Shutter curtain stopper hook collar   | 1 |                    |        | 4D2     |
| D54       | 2nd curtain release spring  | 1 |                    |        | 4D2     |
| 0 - D55   | 2nd curtain operation lever assy.<br>(D55,D60,D76,S102)                       | 1 |                    |        | 4D3     |
| D56       | 1st curtain release spring  | 1 |                    |        | 4D2     |
| 0 - D57   | 1st curtain lever assy.<br>(D57,D60,D75,S102)                                 | 1 |                    |        | 4D2     |
| D58       | Joint spring  | 1 |                    |        | 4F3     |
| D59       | Magnet plate  | 1 |                    |        | 4F5     |
| D67       | Mirror stopper support spring   | 1 |                    |        | 4A3     |
| D68       | Support spring retainer collar  | 1 |                    |        | 4A3     |
| D72       | Wind-end SW fixed contact   | 1 |                    |        | 4E2     |
| D73       | Wind-end SW moving contact  | 1 |                    |        | 4E2     |
| D74       | Protection tube   | 1 |                    |        | 4E2     |
| D77       | 2nd shutter magnet adjusting plate  | 1 |                    |        | 4F5     |
| D78       | 2nd shutter magnet adjusting screw  | 1 |                    |        | 4F4     |
| D79       | 1st shutter magnet retainer screw   | 1 |                    |        | 4F4     |
| D123      | Light seal cover  | 1 |                    |        | 4D4     |
| D124      | Mirror arm pedestal spring  | 2 | 23401-D124         |        | 4B3,4C4 |
| 0 - D125  | Mirror sheet assy.<br>(D125,D128,D129,D139 x4,D141 x2,<br>D142,D145 x6,D153,) | 1 |                    |        | 4C4     |
| 0 - D126  | Arm pedestal assy.<br>(D126,D143 x4)  | 2 |                    |        | 4A2,4B5 |
| D127      | Spring hook screw   | 1 | 26300-A406         |        | 4A3     |
| D130      | Light seal tape   | 2 |                    |        | 4A2     |
| D132      | Damper plate L  | 1 |                    |        | 4C2     |

| Parts No.     | Description  | Q | Interchangeability | NM No. | A              |
|---------------|--|---|--------------------|--------|----------------|
| D133          | Damper plate R   | 1 |                    |        | 4C3            |
| 0 - D134      | Mirror arm assy.<br>(D134,D139,D157)   | 4 | 23401-0-D134       |        | 4B2,4C4        |
| D138          | Support spring   | 1 | 23401-D138-01      |        | 4B2            |
| D147          | Arm pedestal retainer screw  | 5 | 24000-E158         |        | 4A2,4C5<br>5F2 |
| D148          | Damper plate adjusting screw   | 2 |                    |        | 4B2            |
| D149          | Damper plate adjusting nut   | 3 | 23401-B83          |        | 4C3            |
| D151          | Anti-reflection sheet A  | 1 | 23401-D151         |        | 4D4            |
| D152          | Anti-reflection sheet B  | 1 | 23401-D152-01      |        | 4A3            |
| D153          | Anti-reflection sheet C  | 1 | 23401-D153-01      |        | 4A4            |
| D154          | Anti-reflection sheet D  | 2 | 23401-D154-01      |        | 4B3,4C4        |
| D155          | Anti-reflection sheet E  | 6 | 23401-D155         |        | 4B2,4C4        |
| D159          | Anti-reflection sheet F  | 1 | 23401-D159         |        | 4B3            |
| A0 - E1 - 00A | Damper mech. A assy.<br>(E1,E2,E3 x2,E4,E5 x2,E6-00A x2,<br>E7 x2,E8,E9,E10,E11 x2,E12,E13 x2,<br>E15 x6,E16 x2,E17 x2,E18 x2,<br>E19-01A(-01B) x2,E20 x2,E21 x2,<br>E22 x2,E23 x2,E24 x2,E25,E26,E27,<br>E28,E29,E30,E103,W2 t=0.15 x4,<br>W3(adj)x4,W17(adj)x2,W17 t=0.1 x2,<br>W52 t=0.3 x4,W54 t=0.4 x4,<br>LW10 x4,LW13 x4,LWG6 x2)     | 1 | 23401-A0-E1-00A    |        | 6F2            |
| A0 - E1 - 00B | Damper mech. B assy.   |   | 23401-A0-E1-00B    |        | 6F2            |
| A0 - E1 - 00C | Damper mech. C assy.<br>(E1,E2,E3 x2,E4,E5 x2,E6-00A,E6-00B,<br>E7 x2,E8,E9,E10,E11 x2,E12,E13 x2,<br>E15 x6,E16 x2,E17 x2,E18 x2,<br>E19-01A(-01B) x2,E20 x2,E21 x2,<br>E22 x2,E23 x2,E24 x2,E25,E26,E27,<br>E28,E29,E30,E103,W2 t=0.15 x4,<br>W3(adj)x4,W17(adj)x2,W17 t=0.1 x2,<br>W52 t=0.3 x4,W54 t=0.4 x4,<br>LW10 x4,LW13 x4,LWG6 x2) |   | 23401-A0-E1-00C    |        | 6F2            |

| Parts No.     | Description  | Q | Interchangeability | NM No. | A          |
|---------------|--|---|--------------------|--------|------------|
| A0 - E1 - 00D | Damper mech. D assy.<br>(E1,E2,E3 x2,E4,E5 x2,E6-00B x2,<br>E7 x2,E8,E9,E10,E11 x2,E12,E13 x2,<br>E15 x6,E16 x2,E17 x2,E18 x2,<br>E19-01A(-01B) x2,E20 x2,E21 x2,<br>E22 x2,E23 x2,E24 x2,E28,E30,<br>W2 t=0.15 x4,W3(adj)x4<br>W17(adj)x2,W17 t=0.1 x2,<br>W52 t=0.3 x4,W54 t=0.4 x4,<br>LW10 x4,LW13 x4,LWG6 x2) |   | 23401-A0-E1-00D    |        | 6F2        |
| 0 - E25       | X SW lever assy.<br>(E25,E26,E27,E30)  | 1 |                    |        | 6F3        |
| E29           | X SW lever spring  | 1 |                    |        | 6F3        |
| 0 - E34       | 2nd curtain pinion shaft assy.<br>(E34,E38)  | 1 | 23401-0-E34-02     |        | 6A2        |
| 0 - E35       | 1st curtain pinion shaft assy.<br>(E35,E39)  | 1 |                    |        | 6B2        |
| 0 - E41       | Curtain pipe assy.<br>(E41,E46,E47,E57)  | 1 |                    |        | 6D2        |
| 0 - E42       | 1st curtain pipe assy.<br>(E37,E40,E42,E44,E45,E62,<br>W8 t=0.2,LW20)  | 1 |                    |        | 6E5        |
| 0 - E43       | 2nd curtain pipe assy.<br>(E36,E40,E41,E43,E44,E45,E46,E47,E57,<br>E62,W8 t=0.2,LW20)  | 1 |                    |        | 6E4        |
| E48           | 1st curtain shaft A  | 1 | 23401-E48-03       |        | 6C1        |
| 0 - E49       | 1st curtain shaft B assy.<br>(E49,E57)   | 1 |                    |        | 6D1        |
| E50           | Curtain roller A   | 2 | 23401-E50          |        | 6E5<br>6F5 |
| E51           | Curtain roller B   | 2 | 23401-E51-02       |        | 6C2,6D2    |
| E52           | Weight   | 1 | 23401-E52          |        | 6D1        |
| E53           | Bonding Tape for shutter curtain   | 2 |                    |        | 6B2,6C4    |
| E54           | Bonding Tape for shutter ribbon  | 4 |                    |        | 6A2,6C4    |
| E58           | 2nd spring shaft collar  | 1 | 23401-E58          |        | 6E4        |
| 0 - E59       | 2ND SHUTTER CURTAIN ASSY.<br>(E55 x2,E59,E60 x2,E61)   | 1 | 23401-1-E59-01     |        | 6B3        |



| Parts No.     | Description  | Q | Interchangeability | NM No. | A              |
|---------------|--|---|--------------------|--------|----------------|
| A0 - E59      | 2nd shutter curtain assy.<br>(E53,E54 x2,E55 x2,E59,E60 x2,E61<br>E36,E40,E41,E43,E44,E45,E46,E47,E57,<br>E62,W8 t=0.2/0.5,LW20) |   |                    |        | 6A4            |
| 0 - E63       | 1ST SHUTTER CURTAIN ASSY.<br>(E55 x2,E60 x2,E61,E63)   | 1 | 23401-1-E63        |        | 6B4            |
| A0 - E63      | 1st shutter curtain assy.<br>(E37,E40,E42,E44,E45,E53,E54 x2,<br>E55 x2,E60 x2,E61,E62,E63,<br>W8 t=0.2,LW20)                    |   |                    |        | 6A5            |
| E65           | Curtain shaft plate spring   | 1 |                    |        | 6D4            |
| E66           | Curtain pipe retainer screw  | 4 | 23401-E66          |        | 6D1<br>6D2,6E1 |
| 0 - E67       | Shaft plate A assy.<br>(E67,E70,E71,E72,E73,E96)   | 1 |                    |        | 6C2            |
| E68           | Shaft plate B  | 1 |                    |        | 6E1            |
| E69           | Shaft plate C  | 1 | 23401-E69-01       |        | 6F4            |
| 0 - E74       | 1st selector gear assy.<br>(E74,E75,E77,E94 x2,E104,E106)  | 1 |                    |        | 6B1            |
| E78           | Selector shaft collar  | 1 |                    |        | 6B1            |
| E79           | Selector shaft nut   | 1 |                    |        | 6B1            |
| 0 - E80 - 00A | Curtain charge gear A assy.<br>(E80-00A,E81)   | 1 |                    |        | 6B1            |
| 0 - E80 - 00B | Curtain charge gear B assy.<br>(E80-00B,E81)   |   |                    |        | 6B1            |
| 0 - E80 - 00C | Curtain charge gear C assy.<br>(E80-00B,E81)   |   |                    |        | 6B1            |
| E82           | Curtain checker lever  | 2 | 23401-E82          |        | 6B1,6C1        |
| E83           | Curtain shaft wheel  | 2 |                    |        | 6D4            |
| E84           | Checker lever collar   | 2 | 23401-E84          |        | 6B1,6C1        |
| E85           | Checker lever retainer screw   | 1 |                    |        | 6B1            |
| E86           | Checker lever spring   | 2 | 23401-E86          |        | 6B1,6C1        |
| 0 - E87       | Mirror stopper release lever assy.<br>(E87,E105)   | 1 |                    |        | 6C1            |
| E88           | M.E. restrict plate  | 1 |                    |        | 6B1            |

| Parts No. | Description  | Q  | Interchangeability | NM No. | A  |
|-----------|--|----|--------------------|--------|--|
| E89       | M.E. restrict plate collar   | 1  |                    |        | 6B1                                      |
| E90       | M.E. restrict spring   | 1  |                    |        | 6B1                                      |
| 0 - E91   | Duality prevention lever assy.<br>(C65 x2,E91,E92,E98,E107)                        | 1  |                    |        | 6B2                                      |
| E93       | Shaft plate retainer screw   | 11 | 23401-E93-01       |        | 4D3,4F3<br>5C3,6C2<br>6D5,6E1<br>6F3,6F5 |
| E95       | Duality prevention lever spring  | 1  |                    |        | 6C2                                      |
| E97       | Shaft plate A retainer screw   | 1  | 23401-E97-01       |        | 6C1                                      |
| 0 - E99   | 2nd selector gear assy.<br>(E76,E94 x2,E99,E102,E104,E106)                         | 1  |                    |        | 6B1                                      |
| E101      | LCD install plate  | 1  |                    |        | 6F1                                      |
| E109      | Winding magnet install plate   | 1  |                    |        | 6C3                                      |
| E110      | Curtain shaft pedestal   | 1  |                    |        | 6D5                                      |
| 0 - I101  | X-synchronize board assy.<br>(I101,I105 x5,I107,I108,I109,<br>I110 x2,I111,LW7 x2) | 1  |                    |        | 1C4                                      |
| I102      | 5P socket pedestal   | 1  |                    |        | 1D4                                      |
| I103      | X SW insulator A   | 1  |                    |        | 1D4                                      |
| I106      | X-synchronize pedestal   | 1  |                    |        | 1C4                                      |
| I211      | Release contact A  | 1  | 27350-I301         |        | 1E1                                      |
| I212      | Release contact B  | 1  | 27350-I302         |        | 1E1                                      |
| I213      | Release contact C  | 1  | 27350-I303         |        | 1E1                                      |
| I214      | Release SW insulating plate  | 2  | 27350-I304         |        | 1E1                                      |
| I221      | TV brush   | 1  | 27350-I500         |        | 1C5                                      |
| I230      | X SW   | 1  | 23401-0-E29-01     |        | 6F3                                      |
| 0 - J201  | Light sensor assy.<br>(J201,J202,J203)   | 1  |                    |        | 3F3                                      |

| Parts No. | Description  | Q | Interchangeability | NM No. | A   |
|-----------|--|---|--------------------|--------|-----|
| K101      | Resistor   | 1 |                    |        | 3D1 |
| 0 - K102  | Diaphragm coupler ring assy.<br>(K102,K103,K106 x2,K107,K108,<br>K110,K113 x2) | 1 |                    |        | 3D2 |
| K104      | Slider spring hook B   | 1 |                    |        | 3D2 |
| K105      | Slider cover   | 2 |                    |        | 3D1 |
| K109      | Slider spring  | 1 | 27350-K114         |        | 3D2 |
| K111-00A  | Slider roller A  | 1 |                    |        | 3E3 |
| K111-00B  | Slider roller B  |   |                    |        | 3E3 |
| K111-00C  | Slider roller C  |   |                    |        | 3E3 |
| K112      | Slider roller shaft  | 1 |                    |        | 3E3 |
| K114      | Resistor retainer screw  | 2 |                    |        | 3D2 |
| K115      | Resistor spacer  | 1 |                    |        | 3E2 |
| K116      | Insulating tape  | 1 |                    |        | 3E3 |
| L1        | Main mirror  | 1 |                    |        | 4C1 |
| L2        | Focus screen   | 1 |                    |        | 3D1 |
| L4        | Protection glass   | 1 | 23401-L4           |        | 3C1 |
| M1        | Focus screen frame   | 1 |                    |        | 3B1 |
| M2        | Focus screen frame retainer  | 4 |                    |        | 3B1 |
| M3        | Focus screen adjusting plate   | 1 |                    |        | 3B3 |
| M5        | Focus screen retainer  | 2 |                    |        | 3C3 |
| M6        | Focus screen fixing spring   | 1 |                    |        | 2C3 |
| M9        | Penta regulation rubber A  | 2 |                    |        | 3B3 |
| M10       | Penta regulation rubber B  | 2 |                    |        | 2C2 |
| M11       | Viewfinder positioning pin   | 2 |                    |        | 3C3 |
| M12       | Focus screen retainer spring   | 2 |                    |        | 3C3 |

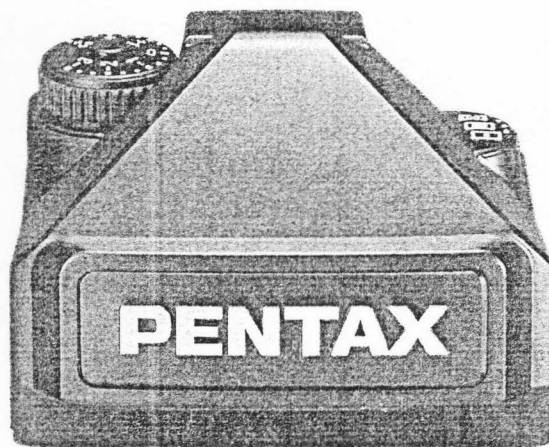
| Parts No. | Description   | Q | Interchangeability | NM No. | A          |
|-----------|---|---|--------------------|--------|------------|
| N300      | PVC   | 1 | 26900-N300         |        | 3C5        |
| O201      | LCD   | 1 |                    |        | 6E1        |
| O202      | LCD frame   | 1 |                    |        | 6F1        |
| O203      | LCD retainer  | 1 |                    |        | 6E1        |
| O204      | Conductive rubber                                     | 2 |                    |        | 6E1        |
| S100      | Shutter magnet  | 2 | 26400-S101         |        | 4F4        |
| S200      | Release magnet  | 1 |                    |        | 4G4        |
| S300      | Winding magnet  | 2 |                    |        | 5E4<br>6C2 |
| T1        | Main P.C.Board install plate A                        | 1 |                    |        | 3G3        |
| T2        | Main P.C.Board install plate B                        | 1 |                    |        | 3G4        |
| T3        | FPC retainer screw                                    | 1 |                    |        | 3G4        |
| T13       | Tape C  | 1 |                    |        | 3F4        |
| T18       | Main P.C.board insulation tape                        | 1 |                    |        | 1D2        |
| T100      | Main P.C.board  | 1 |                    |        | 3F3        |
| 0 - T301  | Viewfinder contact board assy.<br>(M7,M8 x9,T301)     | 1 |                    |        | 3B2        |
| 0 - T311  | Winding MG relay P.C.board assy.<br>(T310,T312)       | 1 |                    |        | 1F3        |
| 0 - T331  | Shutter magnet relay P.C.board<br>(T331,T332,T333 x2) | 1 |                    |        | 4G3        |
| A561-50   | Strap install screw                                   | 1 |                    |        | -          |
| A562-50   | Strap spacer  | 1 |                    |        | -          |

**PENTAX®**

# Service Manual

ENGLISH

## AE PENTA PRISM FINDER 67 II



**Product No.71081**

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## 1. Disassembly and Assembly

Disassembly and assembly should be carried out with reference to the following Figs. 1 to 12.

**Note:** Eyepiece shutter should be handled in an OPEN STATUS.

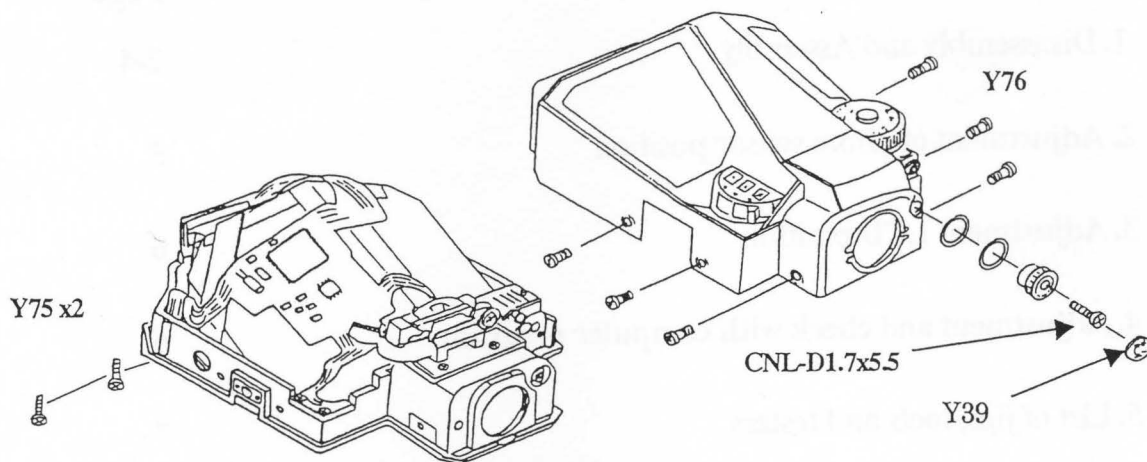


Fig. 1

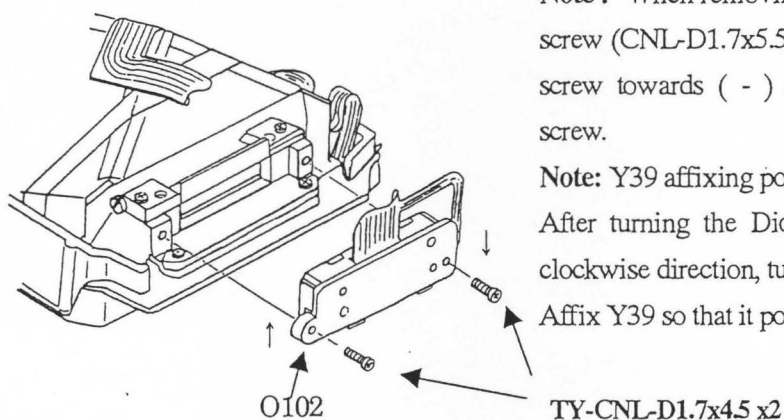


Fig. 2

**Note :** When removing Diopter adjustment dial retainer screw (CNL-D1.7x5.5), turn the Diopter adjustment ring screw towards ( - ) side and loosen CNL-D1.7x 5.5 screw.

**Note:** Y39 affixing position

After turning the Diopter adjustment ring fully in the clockwise direction, turn it counterclockwise 180 degrees.

Affix Y39 so that it positions (+) side comes top.

**Note :** When assembling, push Photo sensor part O102 towards ( ↑ ) and ( ↓ ) and tighten two screws.

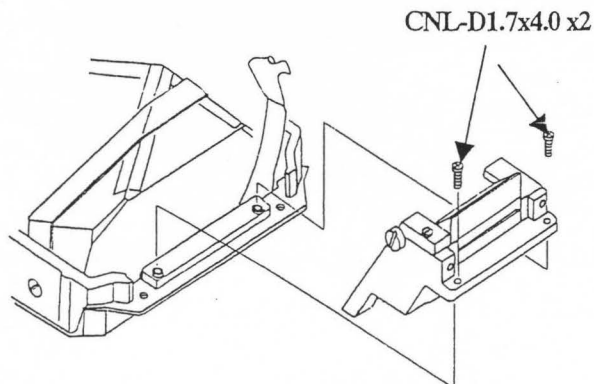


Fig. 3



TY-CNL-F 1.7x4.0 x2

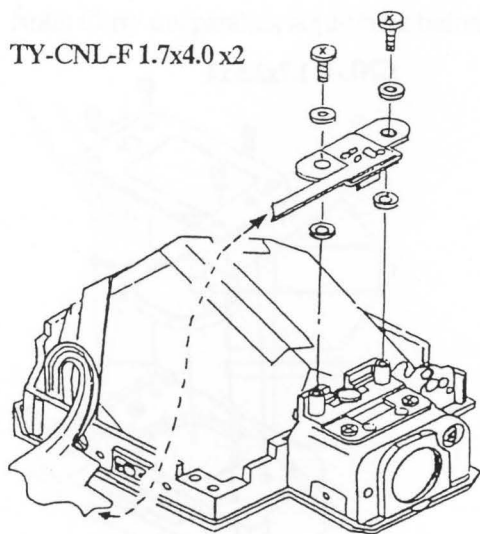


Fig. 4

CNL-D 1.7x5.0x2

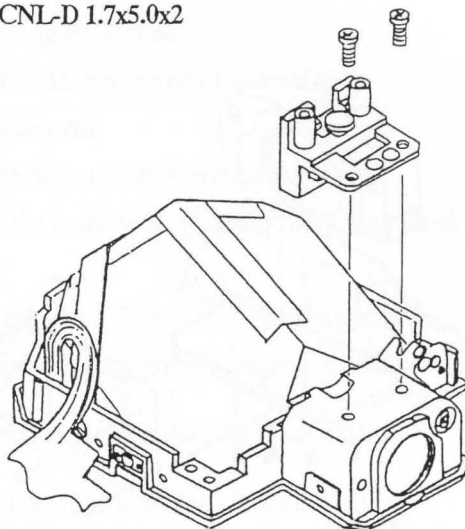


Fig. 5

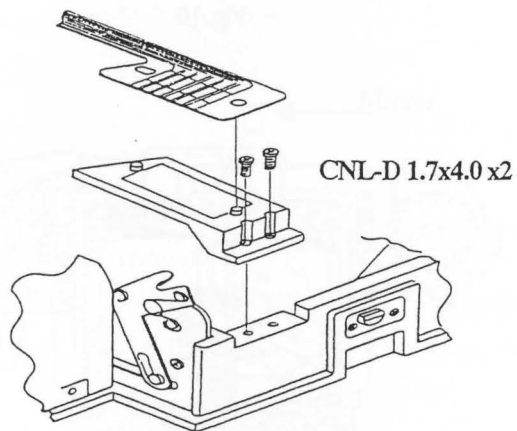


Fig. 6

CNL-D 1.7x4.0 x2

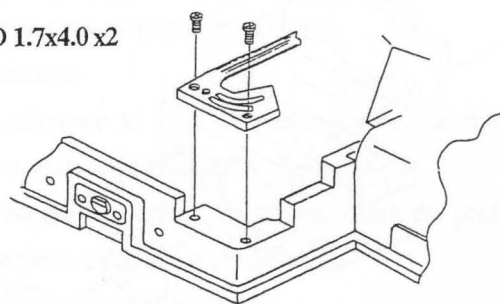


Fig. 7

Note: Do not remove Base in Fig.6 and 7 except when replacing T100.

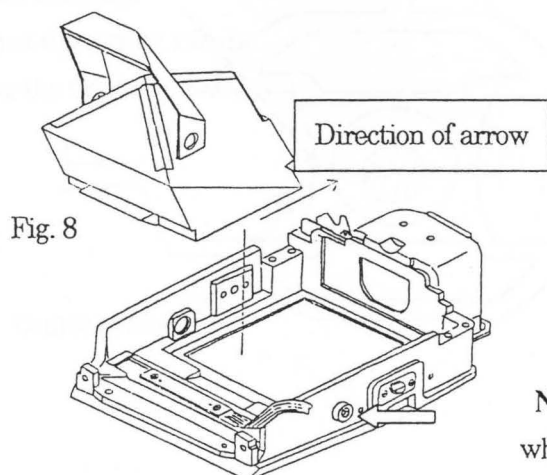


Fig. 8

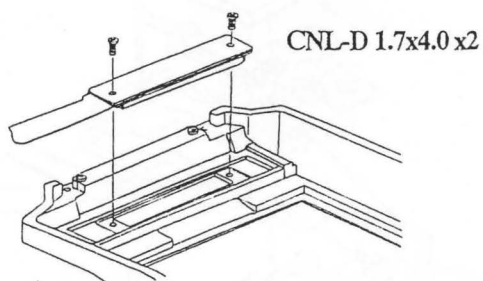
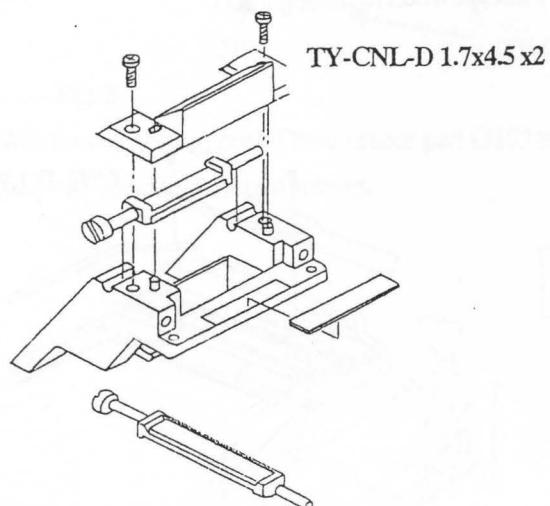
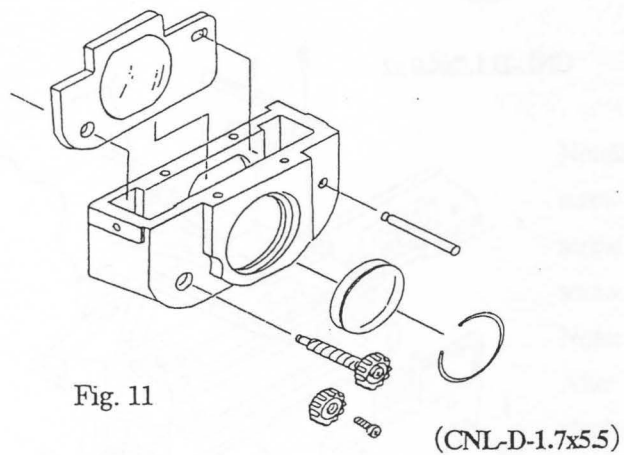
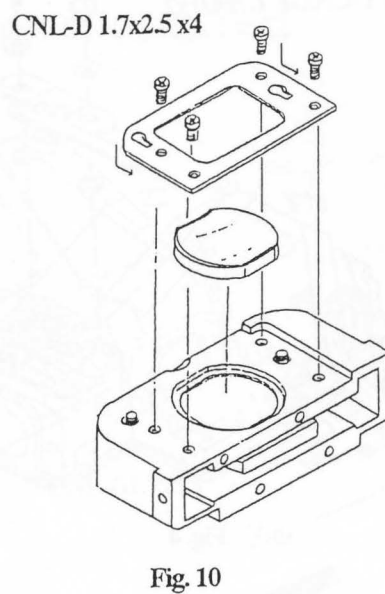
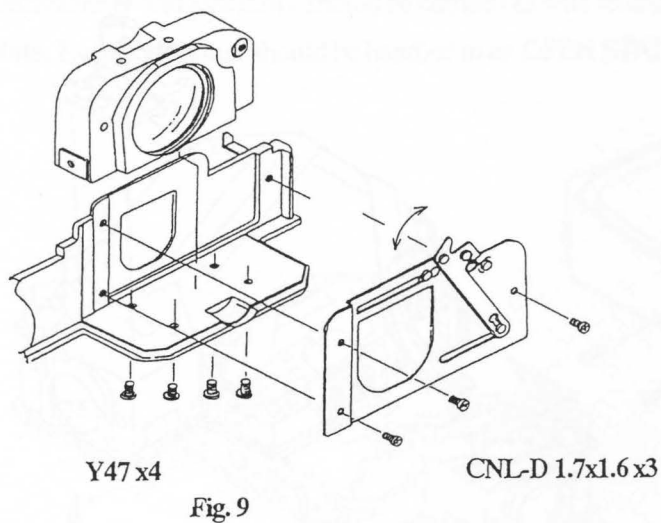


Fig. 9

Note: Push Pentaprism towards Eyepiece ( → ) side when tightening.

Hexagonal screwdriver 2mm used



## 2. Adjustment of photo sensor position

**Note:** Carry out parallax adjustment beforehand when removing Pentaprism.

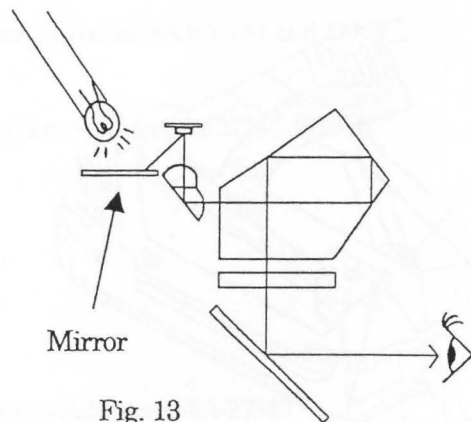


Fig. 13

- (1) Attach the AE Pentaprism Finder 67II to the 67II camera.
- (2) Affix the mirror with reference to Fig. 14.
- (3) Insulate the loupe section against light with black tape.
- (4) Mount the lens (105mm f/2.8) on the camera.
- (5) Apply light of penlight, etc., to mirror and search for position in which the pattern on the light sensor (Fig. 15) can be seen from the lens side..

### (6) Confirmation

Check that the round part at the center of the light sensor is in the position of the microprism and the sensor as a whole is not be slanting.

### (7) Adjustment

With reference to Fig. 16, loosen the sensor fixing screws and move to adjust.

- (8) After adjustment, tighten the screws, check the position of light sensor again and apply adhesive.

Remove the mirror affixed in (2).

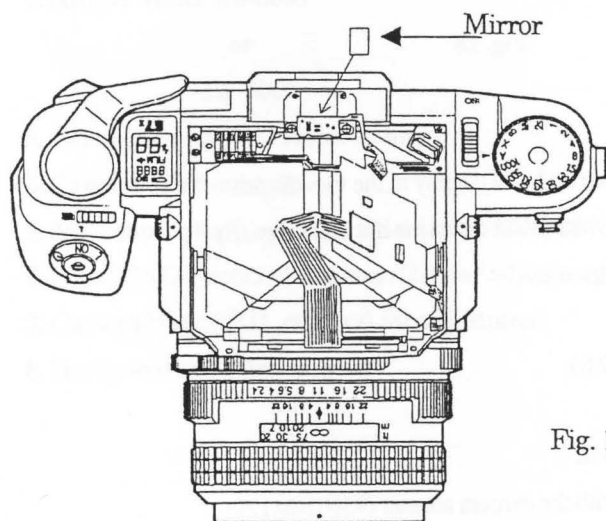


Fig. 14

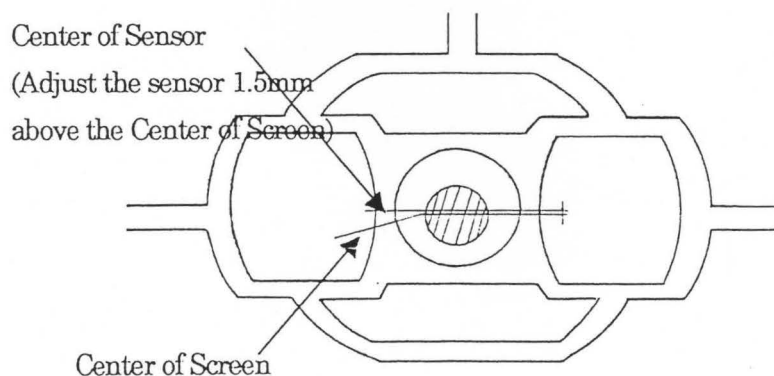


Fig. 15

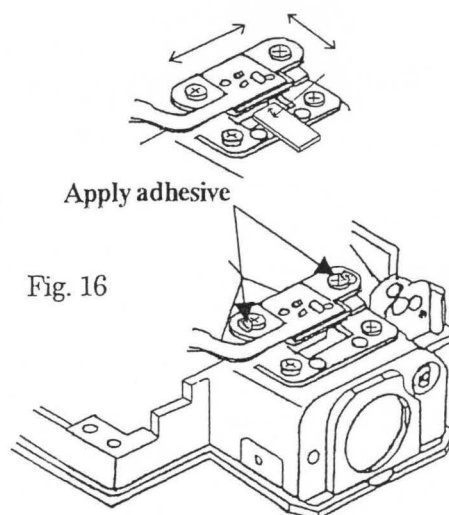


Fig. 16

### 3. LCD position Adjustment

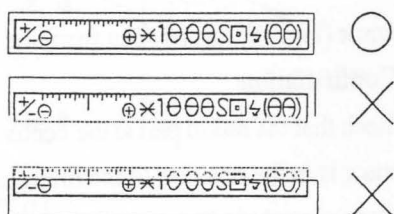
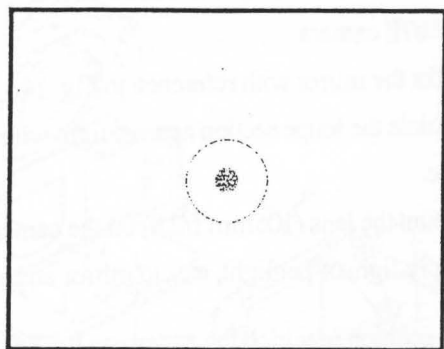


Fig. 17

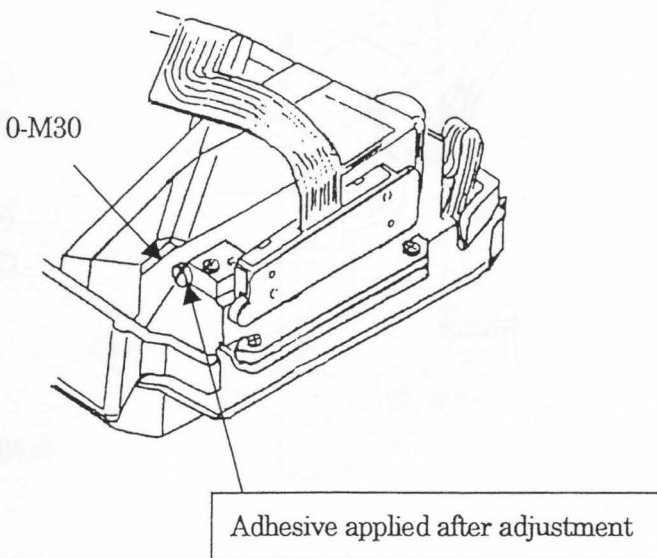


Fig. 18

- (1) Fit AE Pentaprism Finder 67II to the 67II camera.
- (2) Turn power on to the body and half-press shutter button to turn on LCD display in the viewfinder.
- (3) Turn O-M30 with a screwdriver and find out for position in which LCD display is not lost. (Fig. 18)
- (4) After adjustment, apply adhesive and check again after drying.

### 4. Adjustment and check with computer program

- (1) Attach the AE Pentaprism Finder 67II to the 67II camera.
- (2) Connect the 67II camera and the camera multi-adapter A with the camera adapter (95901-M129)
- (3) Turn power on to the camera and adjust and check in accordance with flow chart.

# LIST OF JIGS, TOOLS AND TESTERS

- For exclusive use with 71081 and 27340

Part no.

1. Program Software for 27340 – 71081)

(PC98 MID 3.5")

95901 P206

(PC98 MID 5")

95901 P123

(PC/AT MID 3.5")

95901 P243

2. Camera Adapter CAA-27340

95901 K279

- Others

1. Computer

2. Shutter Tester EF-8000

or

EF-5000

95901 M003-01

3. Connecting Cable (Printer Cable)

4. Camera multi-adapter

95901 M127

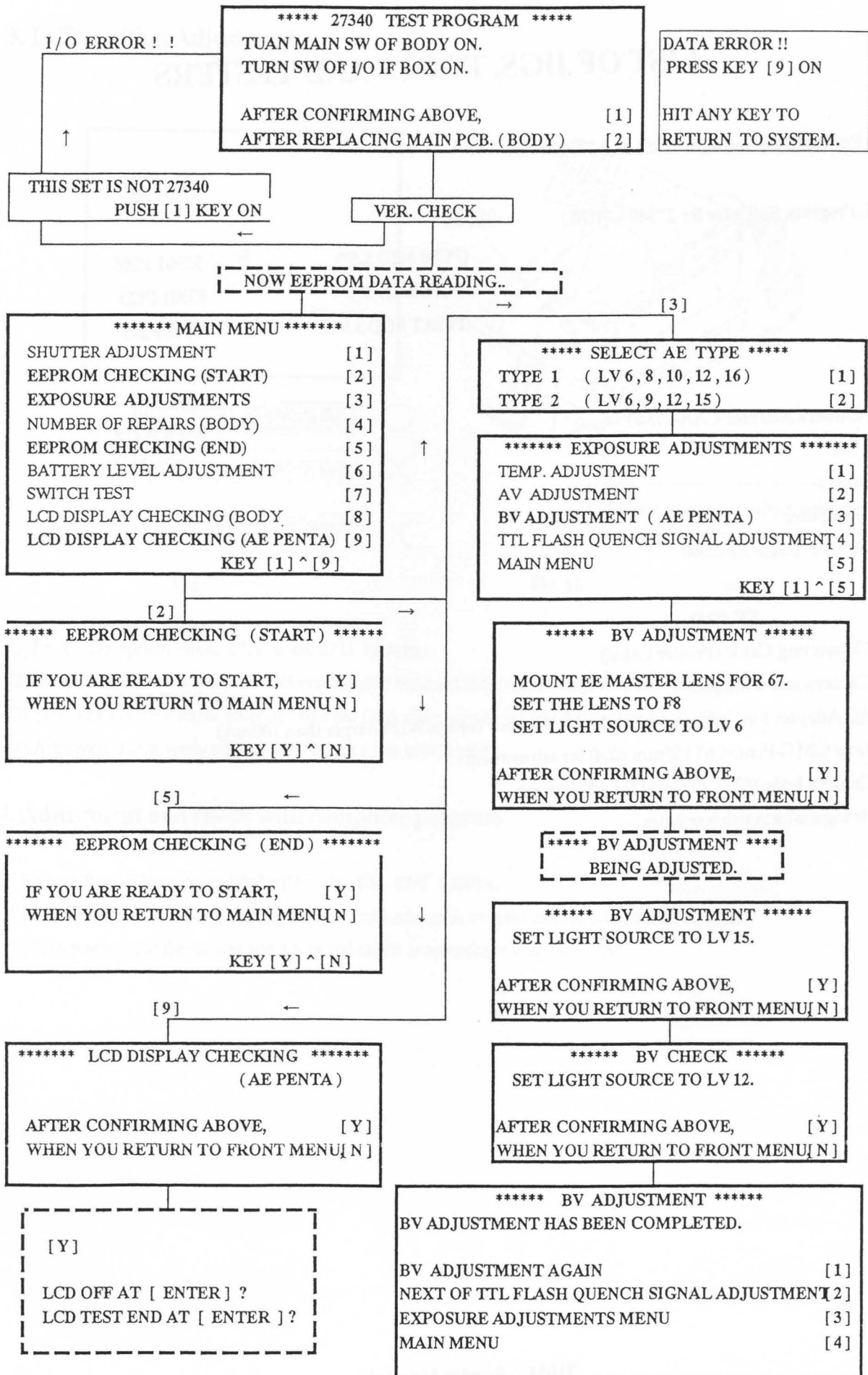
5. AC Adapter for Camera multi-adapter (Output voltage 9-12V/larger than 100mA)

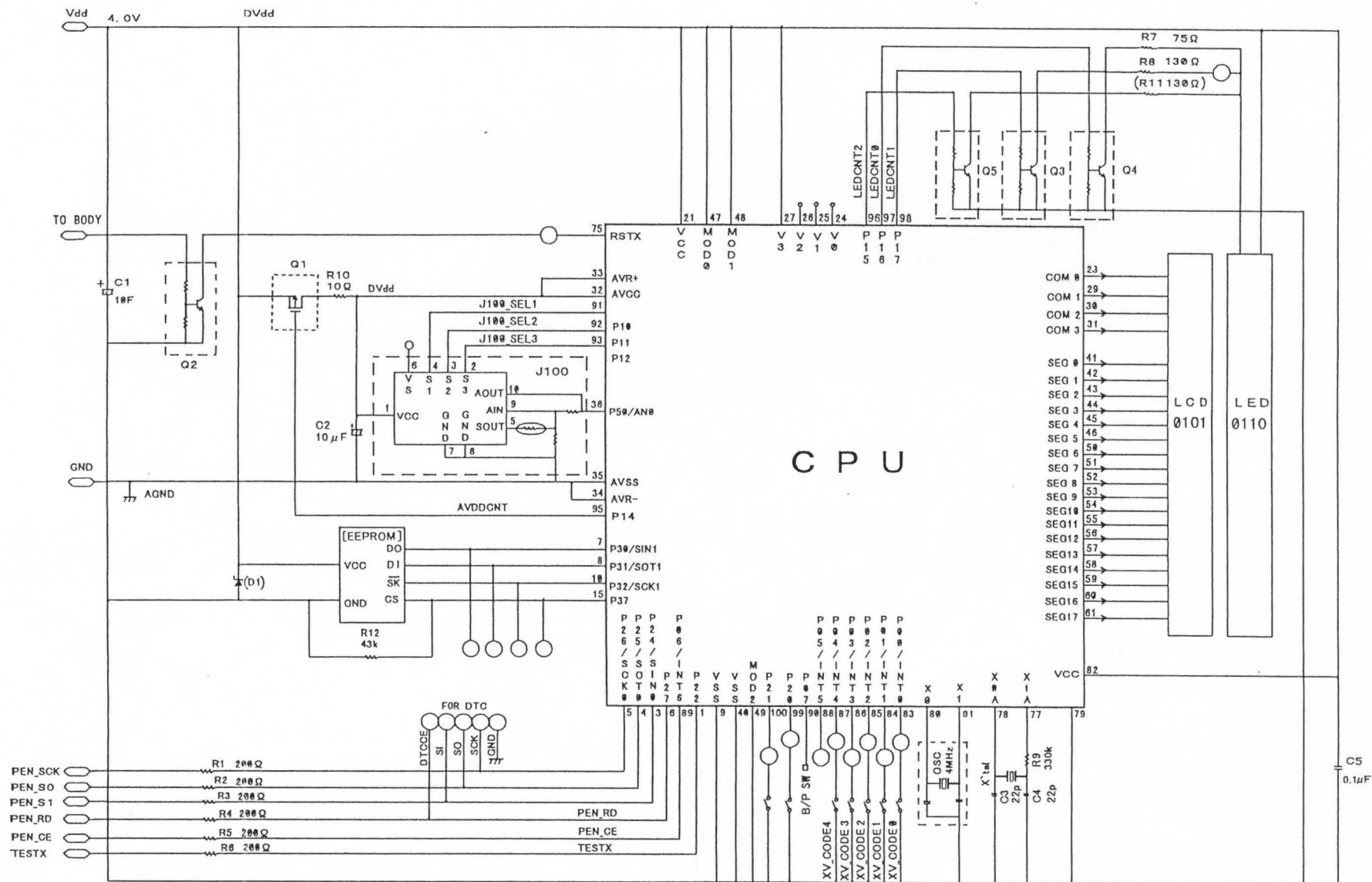
6. Lens (SMC-Pentax 67 105mm /f2.4) for adjustment

7. Camera body (67II camera) for adjustment

8. Hexagonal screwdriver 2mm

# Program Software Flow Chart





Circuit diagram